ANNUAL REPORT FOR ACTIVE IDOT WETLAND COMPENSATION AND HYDROLOGIC MONITORING SITES

September 1, 2005 to September 1, 2006

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Submitted Under Contract Number IDOT SW PESA SIP B FY07 to
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Bureau of Design and Environment, Wetlands Unit
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Springfield, IL 62764-0002

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INTRODUCTION

This report was prepared by the Illinois State Geological Survey (ISGS) to provide the Illinois Department of Transportation (IDOT) with hydrogeologic data collected from wetland compensation sites and potential wetland compensation sites being monitored under contracts IDOT SW WIP FY06 and IDOT SW PESA SIP B FY07. Where appropriate, this report also includes a determination of areas meeting wetland hydrology criteria listed in the 1987 U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and its on-line updates (http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf). Additional activities performed under this contract, such as water-quality monitoring, are not included in this report. Other site observations are included where appropriate.

Summaries of 23 sites are included in this report. Most summaries contain a location map, a site map showing field instruments and the extent of area satisfying wetland hydrology criteria, hydrographs for selected monitoring wells, and local precipitation data for the period. Site locations are shown on Figure 1, and a list of site names is presented in Table 1. All data included in this report are from September 1, 2005 to September 1, 2006 at IDOT's request, except where noted.

METHODS

The primary purpose of this report is to determine the area within each wetland compensation site that satisfies the wetland hydrology criteria listed in the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987). However, to be a wetland, an area must also satisfy soils and vegetation criteria that are assessed by the Illinois Natural History Survey (INHS). INHS will combine the hydrologic data presented in this report with vegetation and soils data they collect, determine the total wetland area of each compensation site, and report it under separate cover. The total wetland area determined by INHS may differ from the areas that satisfy the wetland hydrology criteria shown in this report.

An area must be inundated or saturated for no less than 5% of the growing season in order to satisfy wetland hydrology criteria. These areas will be determined to be jurisdictional wetlands if vegetation and soils criteria mentioned above are also met. Areas that are inundated or saturated for greater than 12.5% of the growing season satisfy wetland hydrology criteria in a conclusive manner, and strongly indicate wetland conditions regardless of soils and vegetation, which may be inconclusive or may not respond as rapidly as wetland hydrology. To assist in proper characterization of wetland compensation sites where soils or vegetation data may be inconclusive, this report shows areas that are inundated or saturated for greater than 5% of the growing season as well as areas that are inundated or saturated for greater than 12.5% of the growing season. Inundation occurs when surface water is present at depths no greater than 2 meters (m) (6.6 feet) (ft). Saturation occurs when the water table is no deeper than 30 centimeters (cm) (1 ft) below land surface.

The Midwestern Climate Center (MCC) provides data regarding the length and beginning date of the growing season (Midwestern Climate Center 2006). The growing season is defined as the time period between the last occurrence of 28°F (-2.2°C) air temperatures in spring to the first occurrence of 28°F (-2.2°C) air temperatures in the fall. The median beginning date and length of growing season are calculated by the MCC for individual climate observation stations throughout the state. Data from the nearest observation station with an adequate period of record are used for each site.

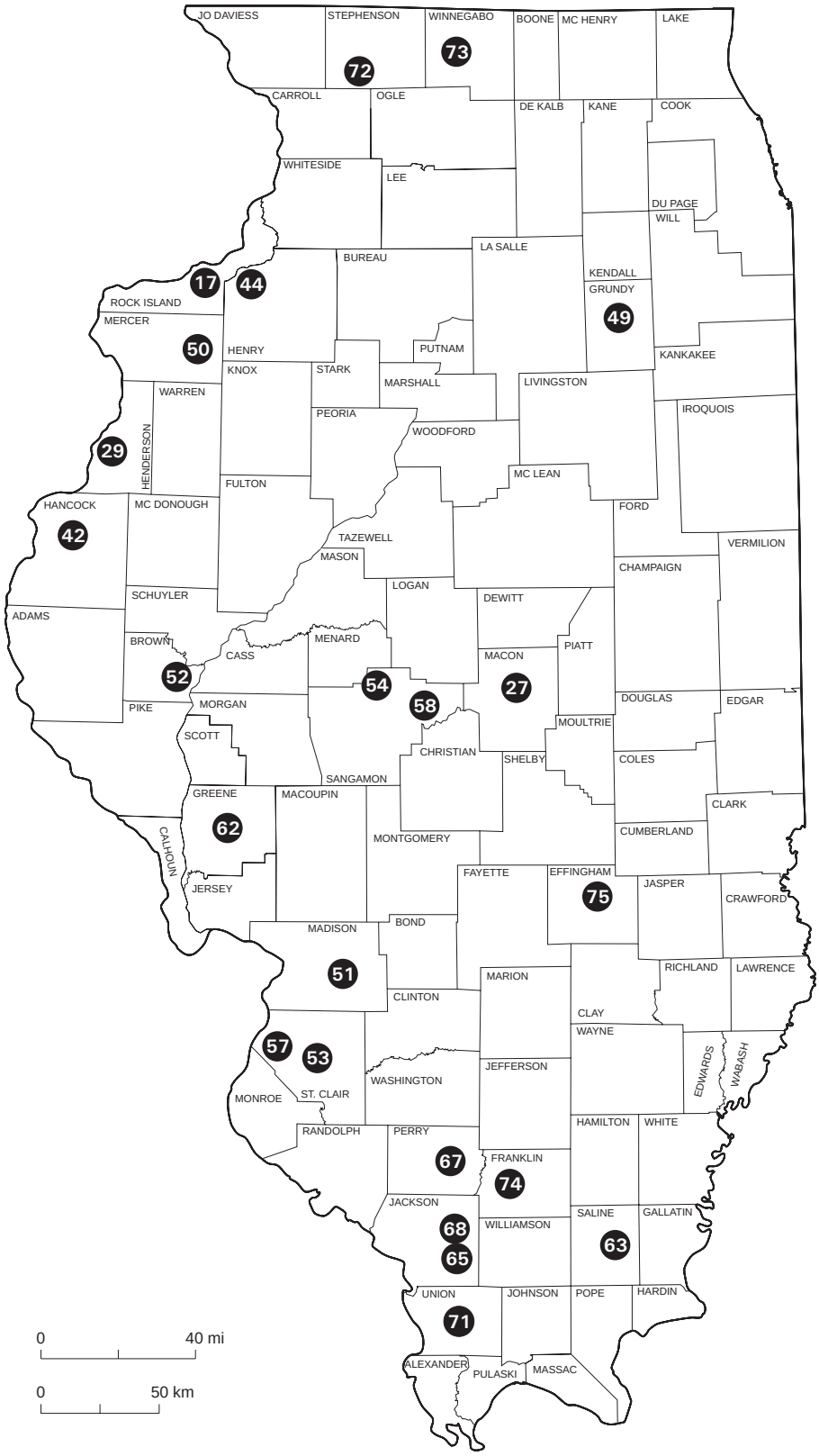


Figure 1 General locations of sites monitored by ISGS for IDOT between September 1, 2005 and September 1, 2006. Numbers indicate ISGS project numbers and are explained in Table 1.

Active IDOT Water-Level Monitoring Sites
September 1, 2005 to September 1, 2006

ISGS #	Site Name Route # FAP # Sequence #
17	Milan Beltway, Airport Road FAU 5822 Sequence #67
27	Decatur US 51 FAP 322
29	Gulfport US 34 FAP 313
42	Hancock County near Carthage US 136 FAP 315 & 10
44	Milan Beltway, Green Rock FAU 5822 Sequence #67
49	Morris, Illinois River Wetland Bank Sequence #1306
50	Edwards River, Mercer County US 67 FAP 310
51	Former Luehmann Property New River Crossing FAP 999
52	Former Wessel Property, La Grange Wetland Bank Sequence #9579
53	Fairmont City New River Crossing FAP 999
54	Springfield IL 29 FAP 658
57	Former Tiernan Property New River Crossing FAP 999 Sequence #33G
58	Buckhart TR 478 FAS 1637
62	Apple Creek near Belltown US 67 FAP 310 Sequence #32
63	Harrisburg US 45 FAP 332
65	Carbondale US 51 FAP 322 Sequence #9780
67	Pyatts Blacktop IL 13 & 127 FAP 42 Sequence #409
68	De Soto US 51 FAP 322 Sequence #264
71	Tamms IL 127 FAS 1907 Sequence #1026
72	Freeport Bypass West Site 6W US 20 FAP 301 Sequence #10487
73	Pecatonica River Forest Preserve Harrison Avenue Extension Sequence #3746
74	Sugar Camp Creek IL 3 FAP 312 Sequence #9282
75	Green Creek IL 32/33 Sequence #12505

Table 1 ISGS project numbers and active water-level sites monitored by ISGS for IDOT between September 1, 2005 and September 1, 2006.

Wells and stage gauges where water levels satisfied wetland hydrology criteria are listed in the text for each site. Interpolation between measuring points and/or extrapolation are used to locate the boundary of the area that satisfies wetland hydrology criteria. Best professional judgement is used to refine the location of this boundary, using small-scale topographic features, vegetation, soils, and other site features. To measure the size of an area satisfying wetland hydrology criteria, the boundaries were plotted on the best available base map, then measured with a Tamaya Super Planix B digital planimeter and listed in hectares (ha) and acres (ac). Alternatively, geographic information systems (GIS) combined with computer contouring programs were used at some sites to map and calculate the area satisfying wetland hydrology criteria.

The error of each area measurement will vary significantly depending on the quality of the underlying base map, the precision in locating monitoring devices, and the precision of the planimeter or GIS at the scale of the base map. The base maps used for these determinations include as-built surveys (done both by IDOT and ISGS), construction plans, U.S. Geological Survey (USGS) 7.5-minute topographic maps, unrectified aerial photographs, and USGS digital orthophotograph quarter-quadrangle (DOQQ) maps (ISGS 2006). In no case is the error of the acreage calculation expected to be less than ±1.5%, and it could be much greater. Given the many potential sources of error, estimates of the amount of error are difficult to calculate and are not included. However, area measurements for each site may differ in the number of significant digits, reflecting the expected accuracy in the base map and the methods.

Water-level data were collected monthly throughout the year, and biweekly during April and May when highest water levels are generally observed in Illinois. Biweekly readings continued into June on a site-by-site basis.

At sites located in different parts of Illinois, 5% of the growing season ranges from about 9 to 11 days, and 12.5% of the growing season ranges from about 23 days to 28 days. Therefore, two consecutive biweekly measurements are required to satisfy wetland hydrology criteria at 5% of the growing season, and three readings are required at 12.5% of the growing season. If fewer readings suggest wetland hydrology, then interpolation of the water levels is performed to determine total number of days of inundation or saturation. Interpolation between two dates is not performed if a water level is not recorded for both dates. Flooding that prevents measurement of a site is considered sufficient evidence of inundation for that site visit. Manual water-level measurements are often supplemented with various automated data logging devices that measure daily or more frequently. These data loggers are used to determine the timing of hydrologic events such as precipitation or flooding that are not recorded in manual measurements. One manual measurement alone is generally considered insufficient to indicate inundation or saturation for a sufficient duration without the identification of a precipitation or flooding event that would have initiated the inundation or saturation. If conflicts occur between automatic and manually recorded data, best professional judgement is used to solve any conflicts in data, and a specific note is added to the site summary in question.

Monitoring wells are given an alphanumeric designation based in part on their relative depths. Monitoring wells designated with an “S” or “VS” are the shallowest and are specifically constructed for measuring wetland hydrology. Monitoring wells designated with a “U” (upper) are deeper than “S” wells, and may be used to determine wetland hydrology depending on the depth of the well screen. Other types of wells, including “M”, “L”, and “D”, are deeper wells used to collect other hydrogeologic data and cannot be used to determine wetland hydrology. They are included only to document ISGS activities at the site and are discussed in other ISGS contract reports to IDOT.

Graphs for each site show water-level elevations at wells and surface-water instruments, and depth-to-water below land surface at each well. Depths are shown as negative values when water levels are above land surface. Elevations at most sites are shown relative to the National Geodetic Vertical Datum (NGVD) of 1929; any variations from this are labeled. The water levels recorded during the year are shown in the charts accompanying each site summary. For small sites, all measurements are shown on the same chart. For sites with more instruments, similar types of instruments are grouped on individual charts, for example all “S” wells may be on a single chart. For the largest sites, there may be several charts for a single type of instrument. If no data are shown on the charts for any specific well, then the well was either dry or not read, or the data were removed for quality-control purposes. Charts lacking any well data were not included in this report.

Multiple data loggers were used to monitor water levels continuously at many sites. Several types of instruments are being used, each made by a different manufacturer. Each type of instrument has different operations and default values. We have removed or labeled any incorrect readings that result when the instrument is dry (e.g. “0" or other default values identified during installation). Other spurious readings that occurred due to data logger malfunction or natural conditions that cause inaccuracies (e.g. vegetation growth or debris accumulation beneath the logger) were removed after interpretation by ISGS scientists.

On-site precipitation data were collected by ISGS using several types of tipping-bucket rain gauges. Due to inherent difficulties in maintaining rain gauges (e.g., clogging, equipment malfunction, timing of deployments), actual precipitation for each month may be greater than the recorded value. Because all ISGS gauges are nonheated and must be removed in the winter, monthly precipitation data are also shown from climate observation stations maintained year-round by the MCC (MCC 2006). The closest weather station with an adequate period of record is used at each site, and additional stations may be used to supplement the record if data from the closest station are missing. Normal (i.e. mean, average) precipitation values, and the above- and below-normal range threshold values are calculated by the National Water and Climate Center (NWCC) (NWCC 2006) and are all based on a 30-year period, between either 1961 and 1990 or 1971 and 2000. Precipitation is classified as being within the normal range when the level recorded is within a 30% probability above or below the mean based on a 2-parameter gamma distribution over the 30-year period (NWCC 1995). Precipitation is classified as above or below the normal range when the recorded level is not within the normal range as defined above. “Above 30% threshold” refers to the value at which there is a 30% chance precipitation will be greater than or equal to the value shown. “Below 30% threshold” refers to the value at which there is a 30% chance precipitation will be less than or equal to the value shown. Precipitation may be described relative to “normal” values or the “normal range” as needed.

This document is intended to be a summary of all hydrologic data collected under this contract during the reporting period. Therefore, some details have been omitted that may be necessary to interpret the data for other uses. The primary project manager listed for each site should be contacted for additional information.

REFERENCES

Environmental Laboratory, 1987, Corps of Engineers Wetlands Delineation Manual: U. S. Army Corps of Engineers Technical Report Y-87-1, Washington, D.C., 100 p. Available online at http://el.erdc.usace.army.mil/wetlands/pdfs/wlman87.pdf.

Illinois State Geological Survey, 2006, Illinois Natural Resources Geospatial Data Clearinghouse, Illinois Digital Orthophoto Quarter Quadrangle Data: Illinois State Geological Survey, Champaign, Illinois, available online at http://www.isgs.uiuc.edu/nsdihome/webdocs/doqs/.

Midwestern Climate Center, 2006, Midwestern Climate Information System: Illinois State Water Survey, Champaign, Illinois, available online at http://mcc.sws.uiuc.edu/.

National Water and Climate Center, Natural Resources Conservation Service, 2006, Climate Analysis for Wetlands by County, available online at http://www.wcc.nrcs.usda.gov/climate/wetlands.html.

National Water and Climate Center, Natural Resources Conservation Service, 1995, WETS Table Documentation, available online at http://www.wcc.nrcs.usda.gov/climate/wets_doc.html.

MILAN BELTWAY, AIRPORT ROAD **ISGS #17**
WETLAND COMPENSATION SITE
FAU 5822
Sequence #67
Rock Island County, near Milan, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- Spring 1997: The sump pump on the east side of the site was turned off and later removed.

- August 1997: ISGS data collection was initiated with the installation of monitoring wells and staff gauges.

- August 2004: Construction of the Milan Bypass began. Wetland mitigation began with the excavation of the southern portion of the site. Tree planting began in Fall 2004 and was completed in Spring 2005.

- January 2005: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open File Series 2005–04).

- Spring 2005: New monitoring wells and staff gauges were installed at the site.

- Summer 2006: Five year post-construction performance monitoring began.

WETLAND HYDROLOGY CALCULATION FOR 2006

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2006 growing season was estimated to be 4.4 ha (10.8 ac) out of a total area of 8.9 ha (22.0 ac). The area that satisfied wetland hydrology criteria for more than 12.5% of the growing season was also estimated to be 4.4 ha (10.8 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins at the Quad City International Airport in nearby Moline, Illinois, is April 13 and the season lasts 196 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation during the monitoring period was 33.71 inches, which was 89% of normal. Five months during the period (January, March, April, July, and August 2006) were at or above normal. Total precipitation in the spring (April, May, and June) was 77% of normal.

- In 2006, wetland hydrology occurred for more than 5% of the growing season at wells 5S, 6S, and 7S. Wetland hydrology also occurred for more than 12.5% of the growing season at wells 5S, 6S, and 7S.

- Surface-water gauges showed that inundation occurred at both Gauge B and RDS 4 during the growing season. At Gauge B, inundation occurred at an elevation greater than 171.75 m (563.48 ft) for more than 5% of the growing season. At RDS 4, inundation occurred at an elevation greater than 171.82 m (563.71 ft) for more than 5% of the growing season.

- None of the wells or staff gauges in the portion of the site altered in Fall 2004 (tree planting area on the site map) satisfied the wetland hydrology criteria at either 5% or 12.5% of the growing season.

- Limitations of the wetland hydrology determination are as follows:
  - The area of wetland hydrology includes pre-existing wetland.

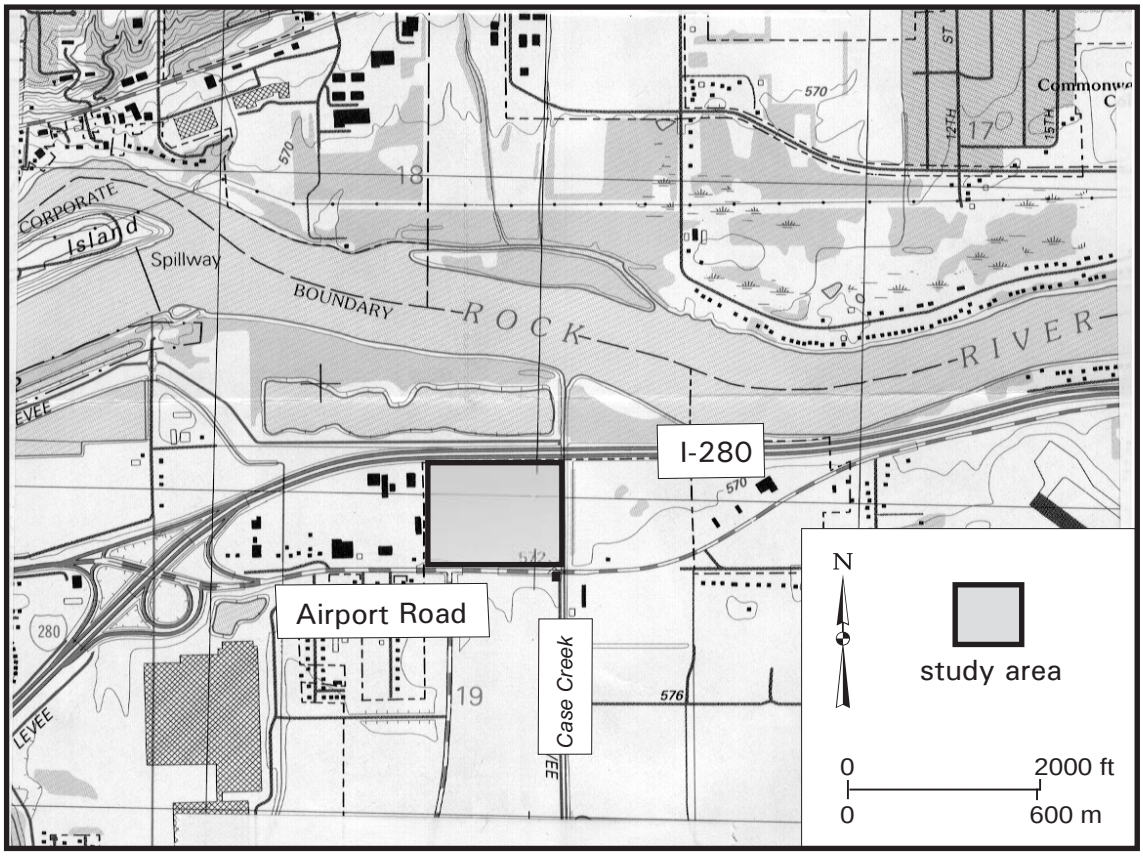
PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until notified otherwise by IDOT.

Milan Beltway, Airport Road Wetland Compensation Site (FAU 5822)

General Study Area and Vicinity

from the USGS Topographic Series, Milan IL-IA 7.5-minute Quadrangle (USGS 1992)
contour interval is 10 feet

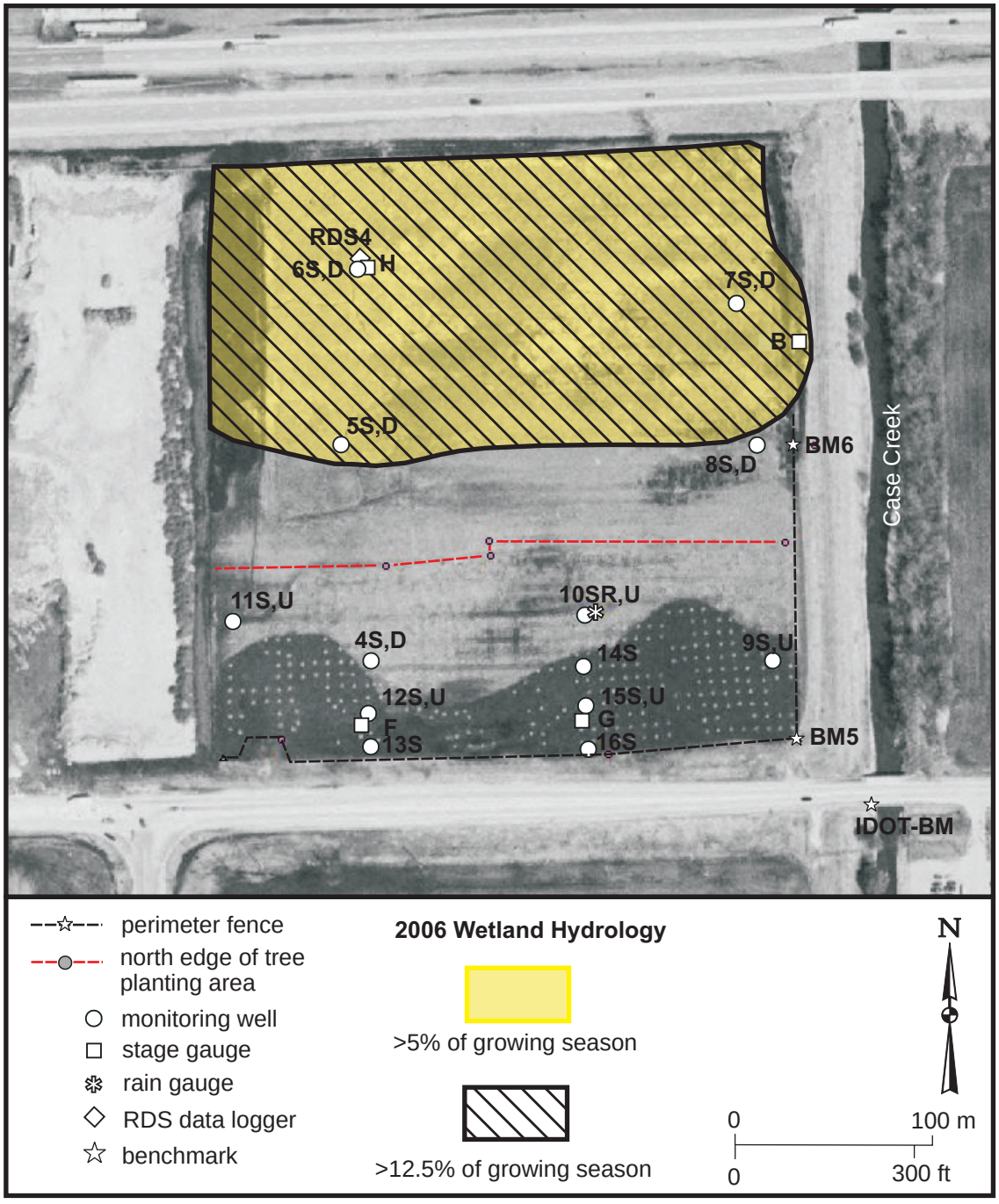


Milan Beltway, Airport Road Wetland Compensation Site (FAU 5822)

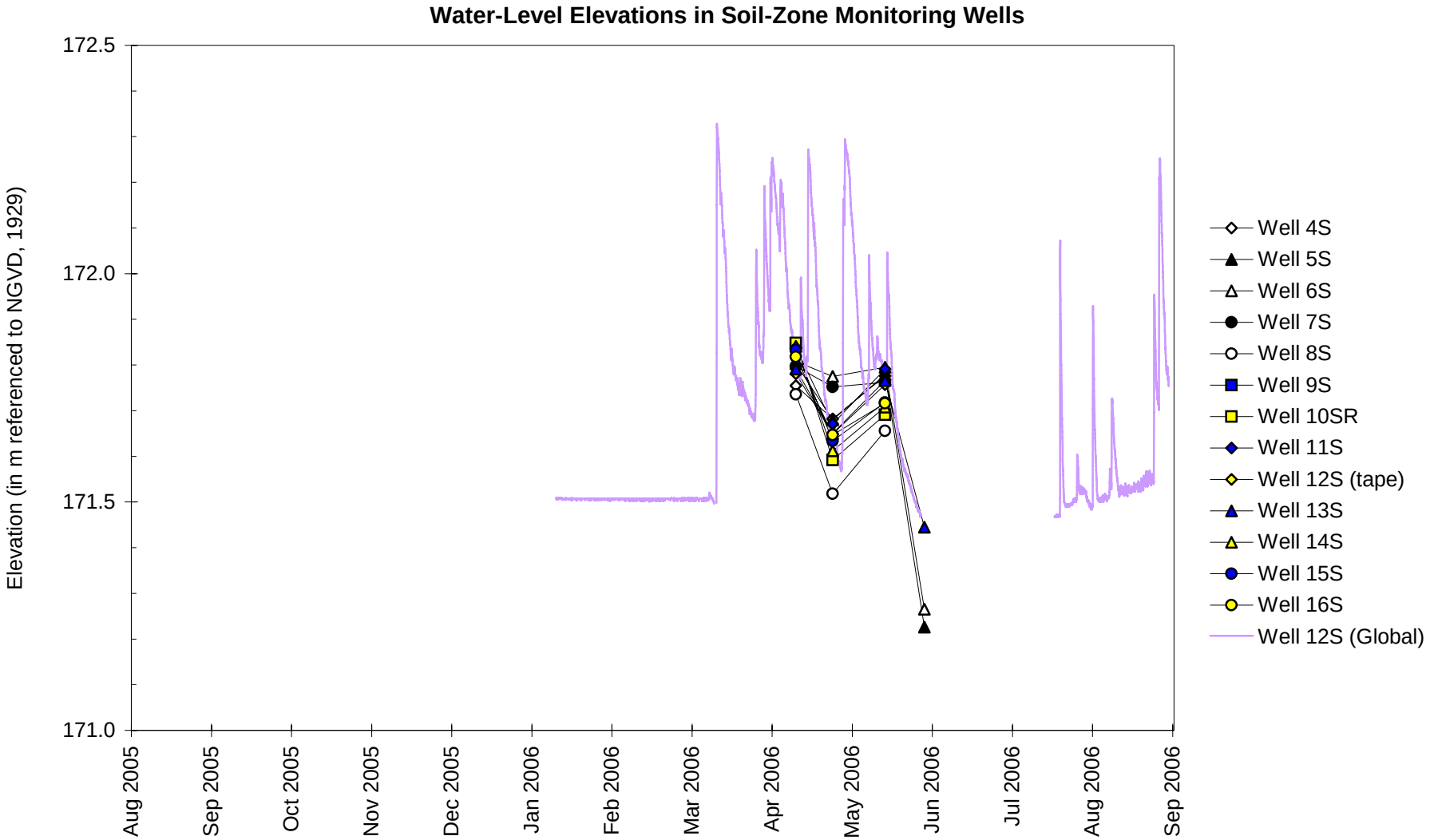
Estimated Areal Extent of 2006 Wetland Hydrology

based on data collected between September 1, 2005 and September 1, 2006

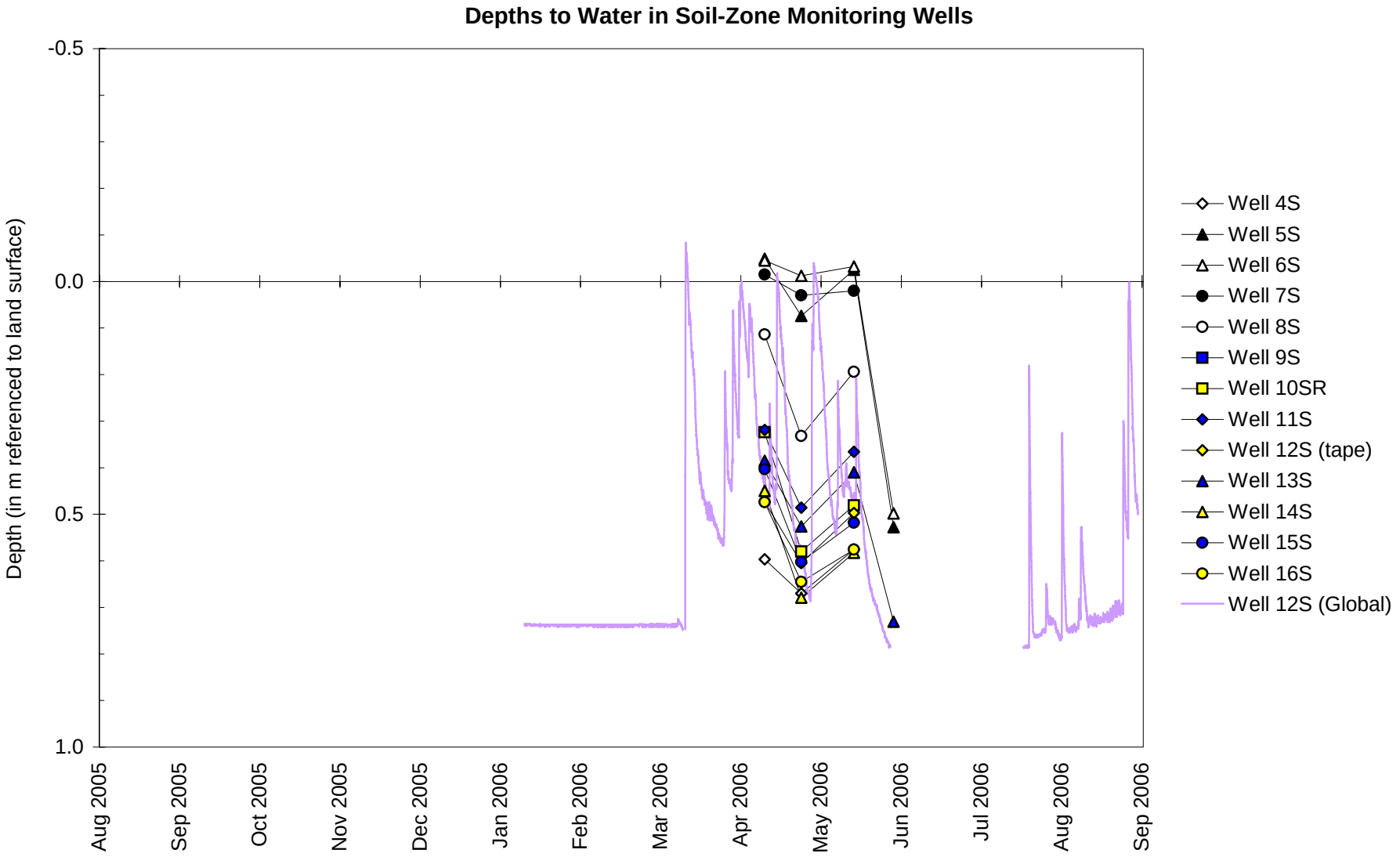
Map based on USGS digital orthophotograph, Milan SW quarter quadrangle
from 03/30/2000 aerial photography (ISGS 2005)



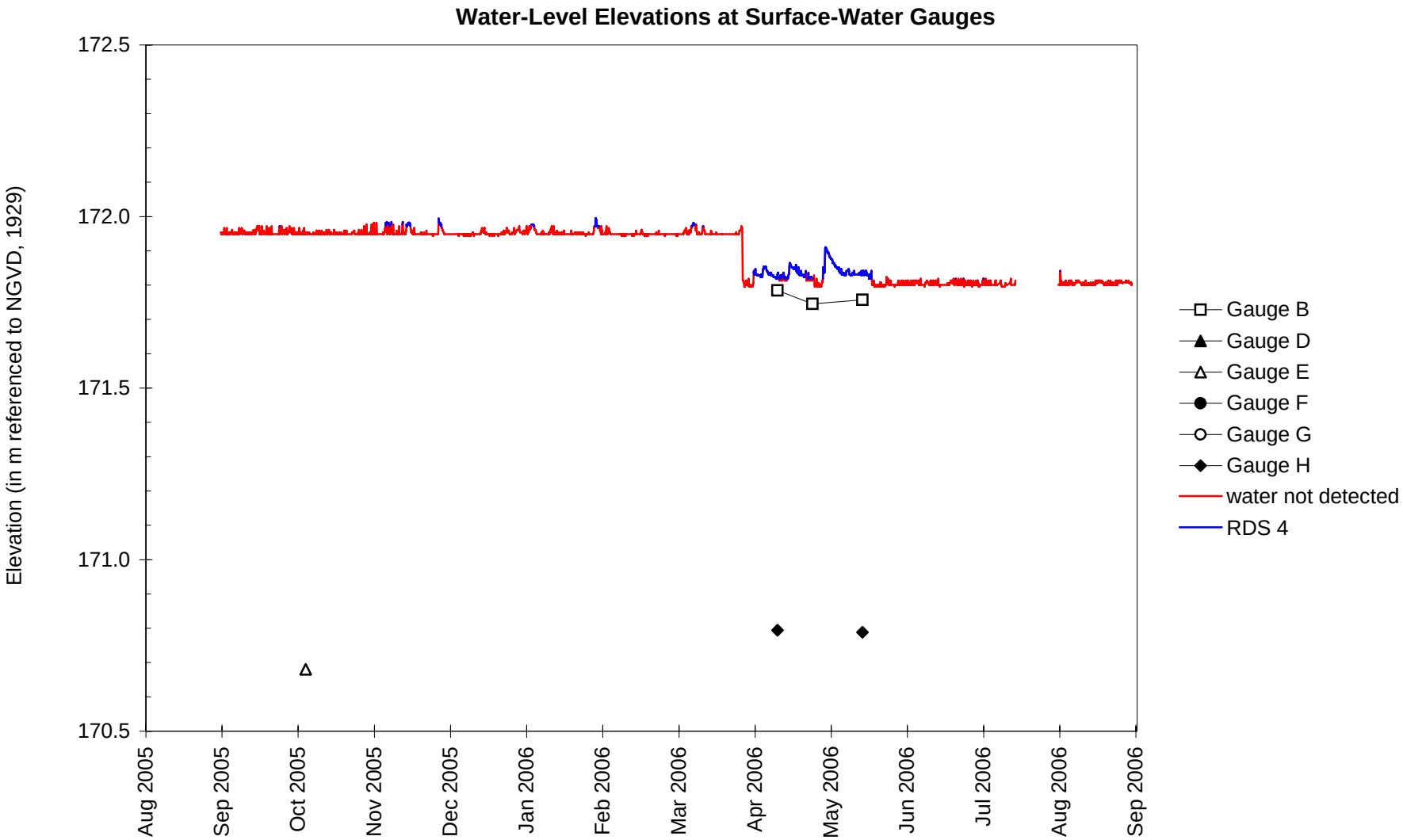
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



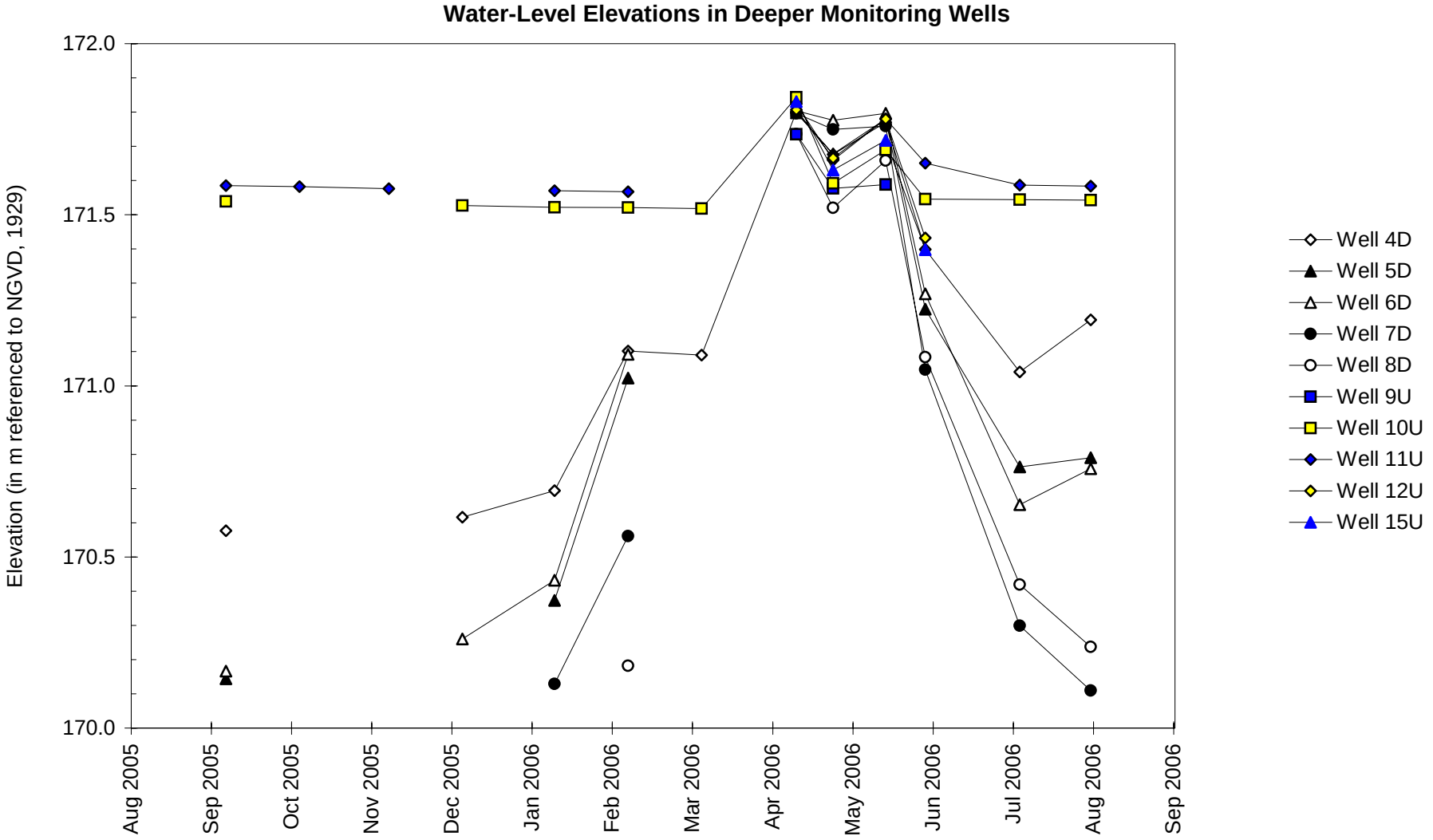
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



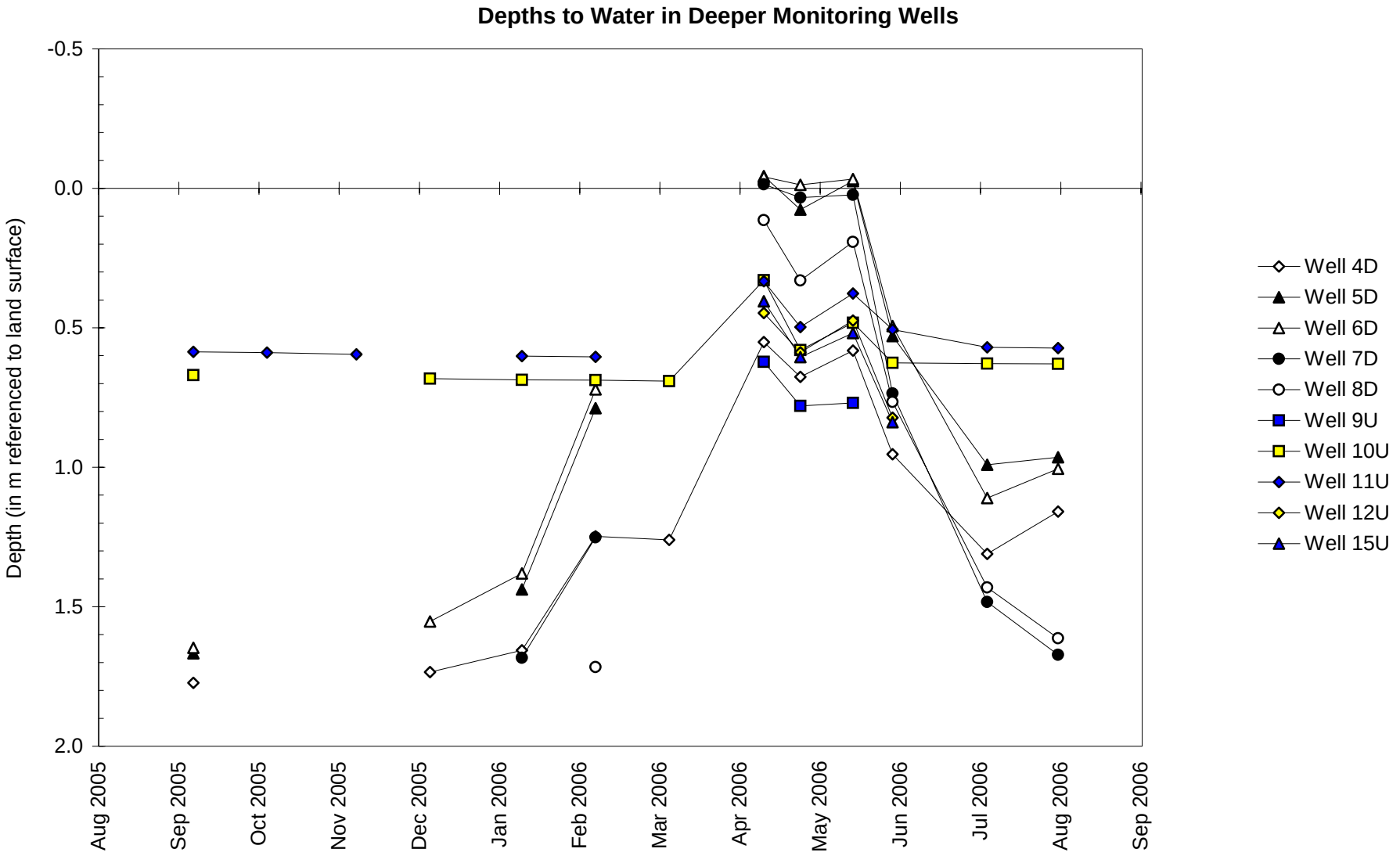
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



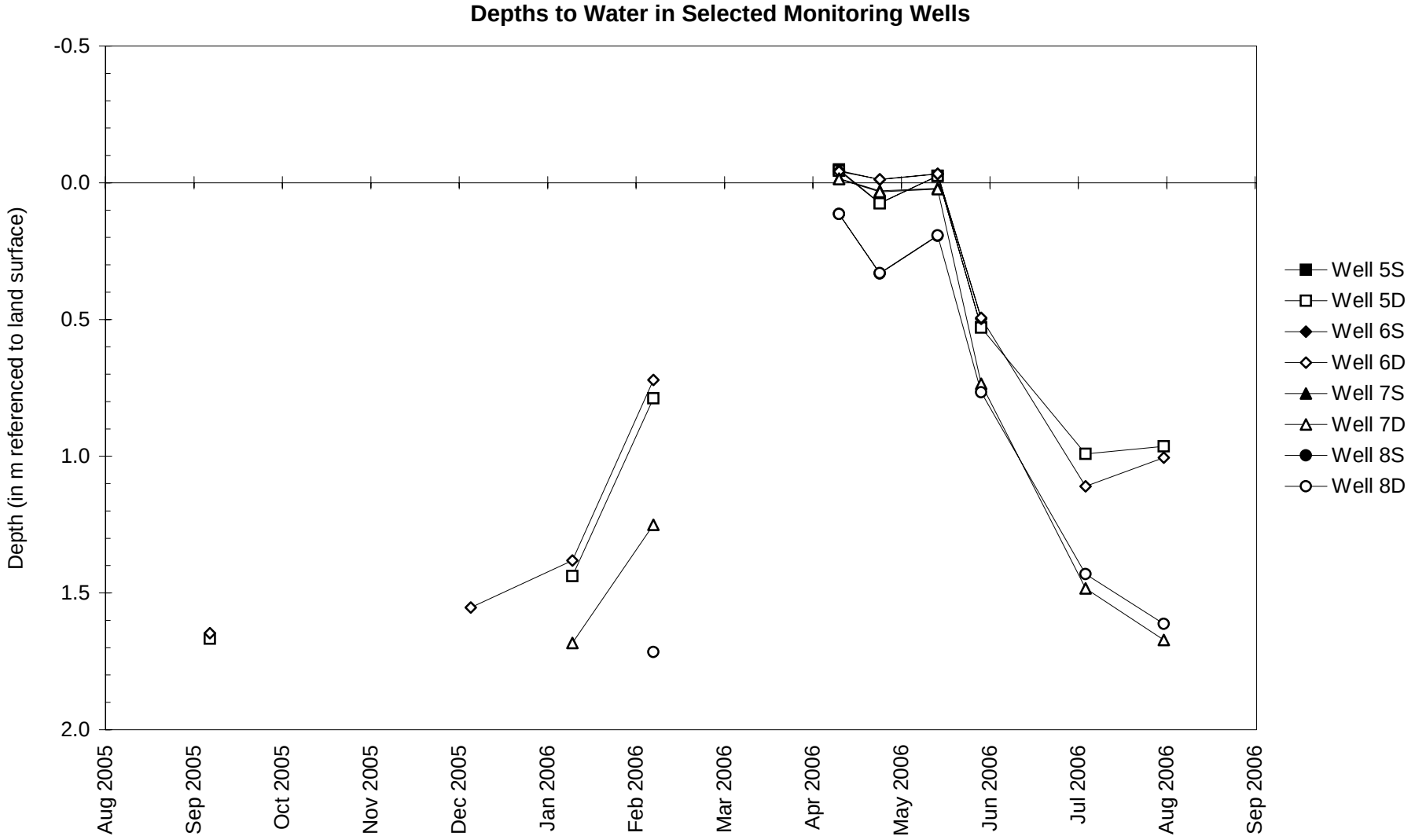
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



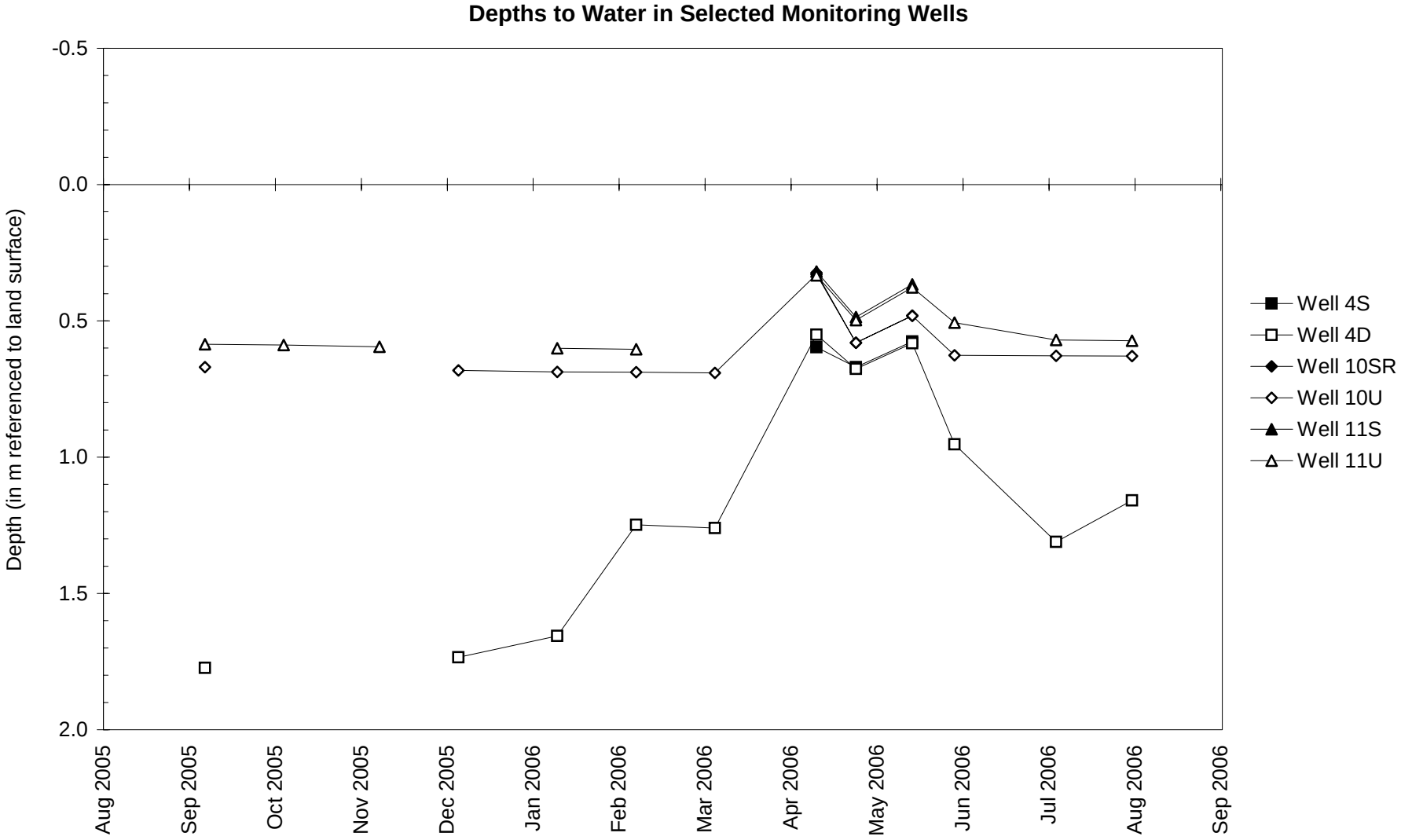
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



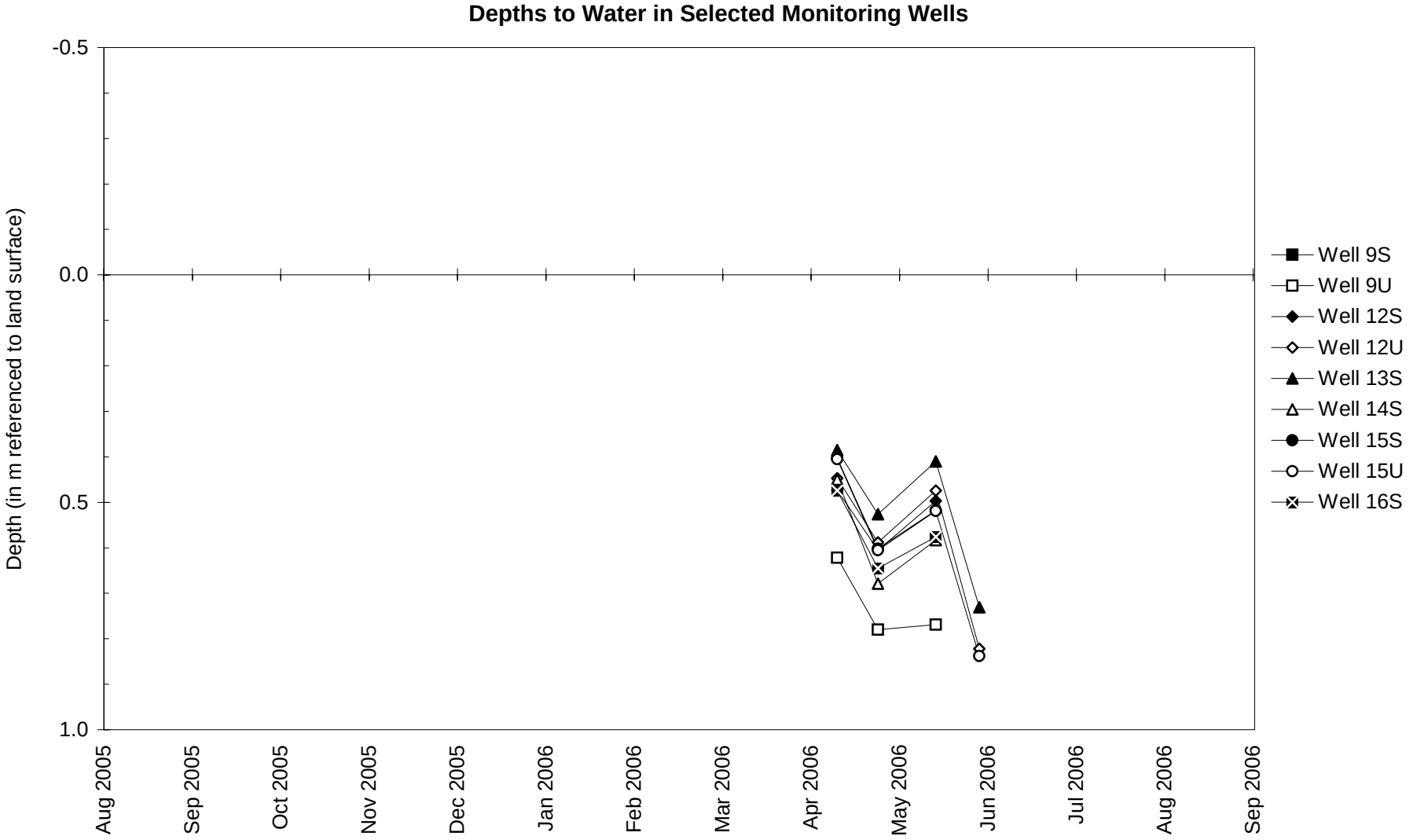
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



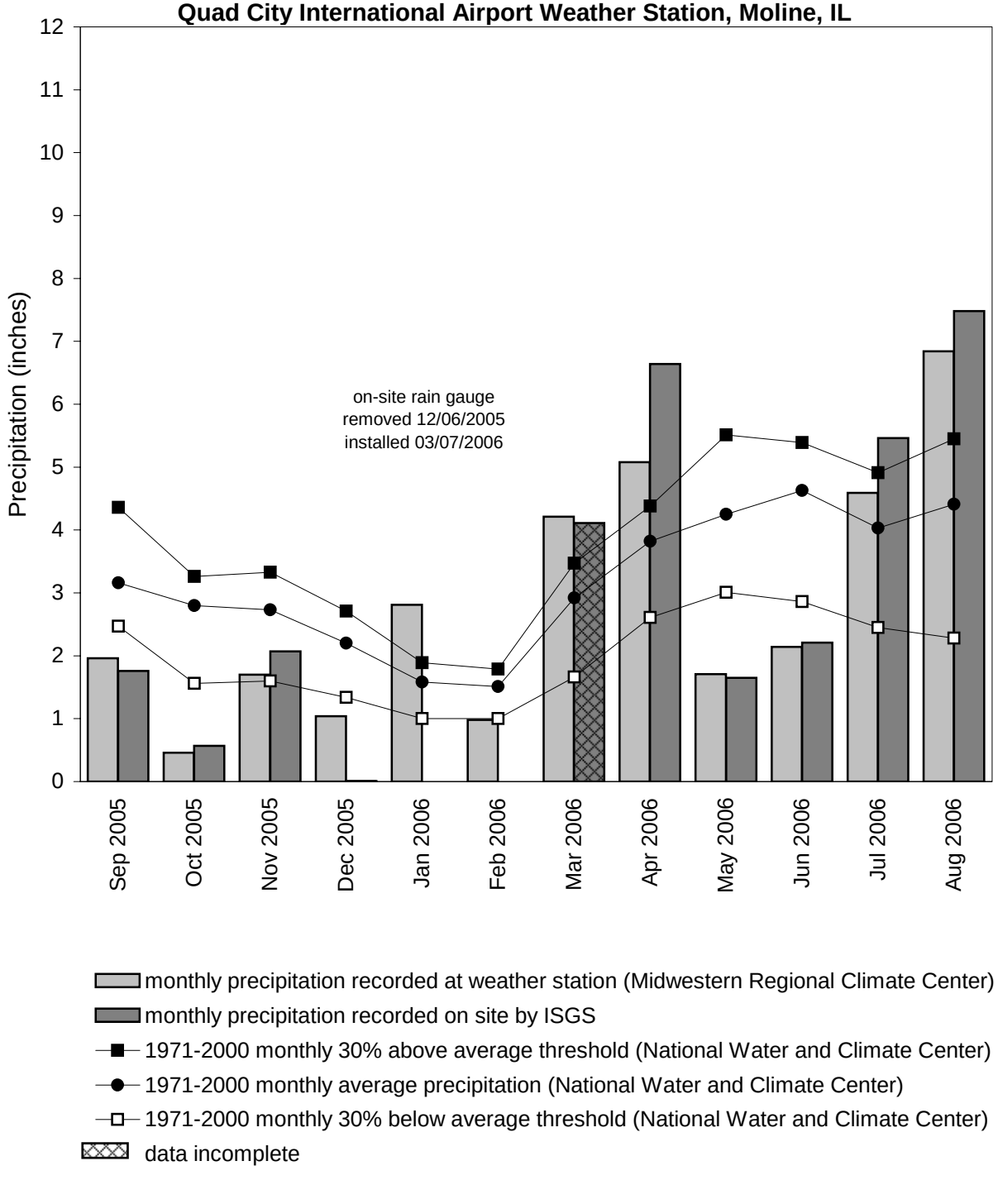
Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



Milan Beltway, Airport Road Wetland Compensation Site
September 1, 2005 to September 1, 2006



Milan Beltway, Airport Road
Wetland Compensation Site
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Quad City International Airport Weather Station, Moline, IL



Graph last updated October 13, 2006

DECATUR, U.S. ROUTE 51 **ISGS #27**
WETLAND COMPENSATION SITE
FAP 322
Macon County, near Elwin, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- May 1999: ISGS was tasked to conduct hydrologic monitoring.
- March and May 2000: ISGS installed a surface-water data logger (RDS 1) and a rain gauge, then later completed several shallow soil borings to investigate the presence and condition of a shallow confined aquifer across the site.
- June 2001: Construction of the wetland was completed.
- December 2001: ISGS installed additional monitoring instruments at the site.

WETLAND HYDROLOGY CALCULATION FOR 2006

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2006 growing season is 2.3 ha (5.7 ac) out of a total site area of approximately 4.7 ha (11.6 ac). The same acreage also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Decatur, Illinois, is April 9 and the season lasts 193 days; 5% of the growing season is 10 days and 12.5% of the growing season is 24 days.
- During the period from September 2005 through August 2006, total precipitation at the Decatur weather station was 101% of normal. Precipitation recorded at the weather station was above normal for the months of September, October, and November 2005, and also for March and April 2006. Precipitation amounts were near or below normal for the remaining months of the 2005–2006 period.
- In 2006, water levels in wells 6S, 7S, 8S, 10S, 11SR, and 12S satisfied wetland hydrology criteria for greater than 12.5% of the growing season. No additional wells satisfied wetland hydrology criteria for greater than 5% of the growing season.
- Water-level records for data loggers RDS 1 and RDS 2 indicated inundation at elevations below approximately 221.01 m (725.10 ft) and 221.00 m (725.07 ft), respectively, for greater than 5% of the growing season. Water-level records for data loggers RDS 1 and RDS 2 indicated inundation at elevations below approximately 220.98 m (725.00 ft) and 220.97 m (724.97 ft), respectively, for greater than 12.5% of the growing season.

- This site has been monitored for 5 growing seasons. We calculate that a total of 2.6 ha (6.4 ac) satisfied wetland hydrology criteria for greater than 5% of the growing season for the entire 5-year period, and 2.2 ha (5.5 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season for the entire 5-year period. Water levels in wells 4S, 6S, 7S, 8S, 10S, 11SR, and 12S satisfied wetland hydrology criteria for greater than 5% of the growing season for the entire 5-year period, and water levels in wells 6S, 8S, 10S, 11SR, and 12S satisfied wetland hydrology criteria for greater than 12.5% of the growing season for the entire 5-year period.

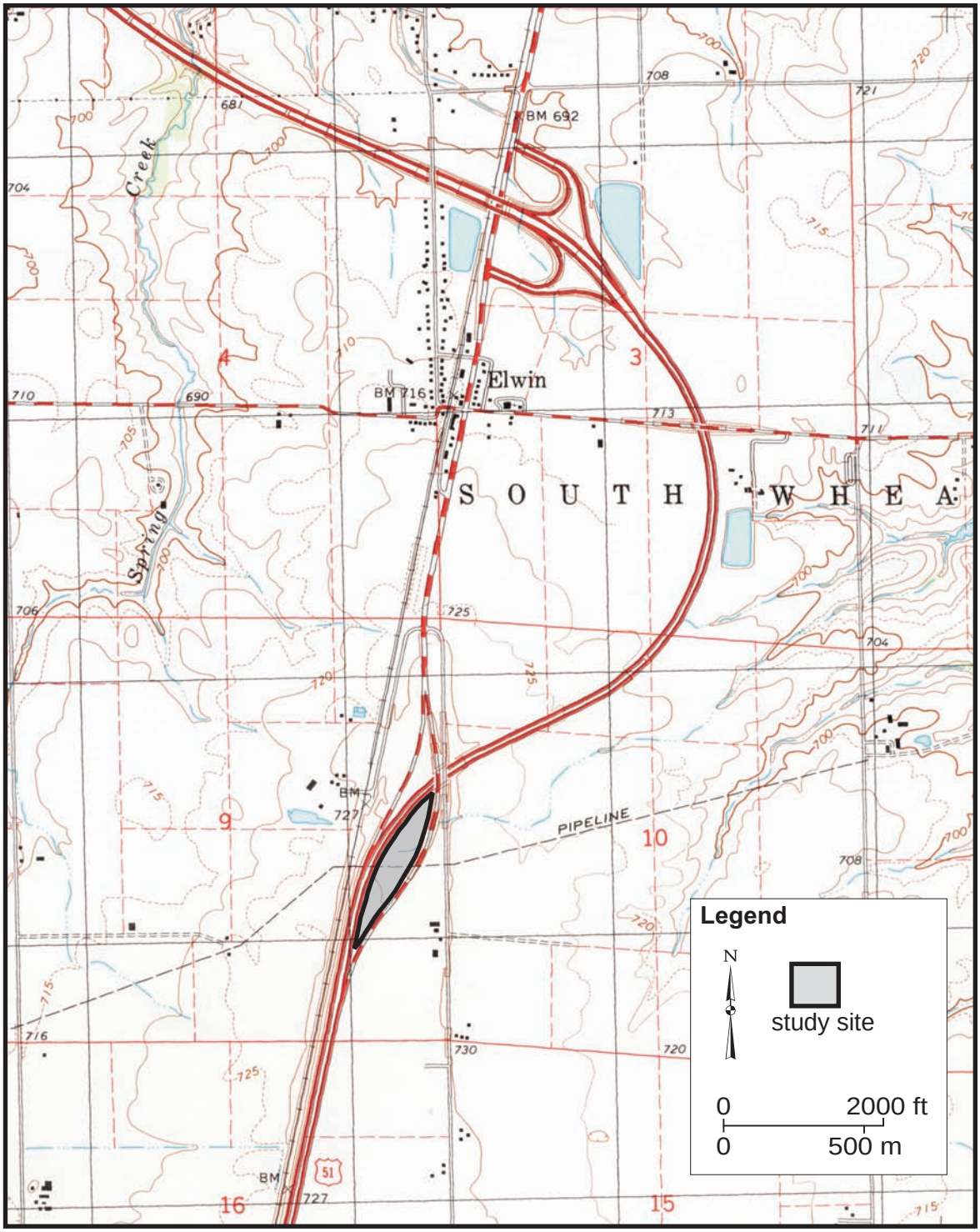
PLANNED FUTURE ACTIVITIES

- The current monitoring scheme will continue until no longer required by IDOT.

Decatur, U.S. Route 51 Wetland Compensation Site
(FAP 322)

General Study Area and Vicinity

from the USGS Topographic Series, Decatur, IL 7.5-minute Quadrangle (USGS 1998)
contour interval is 10 feet, supplementary contour interval is 5 feet

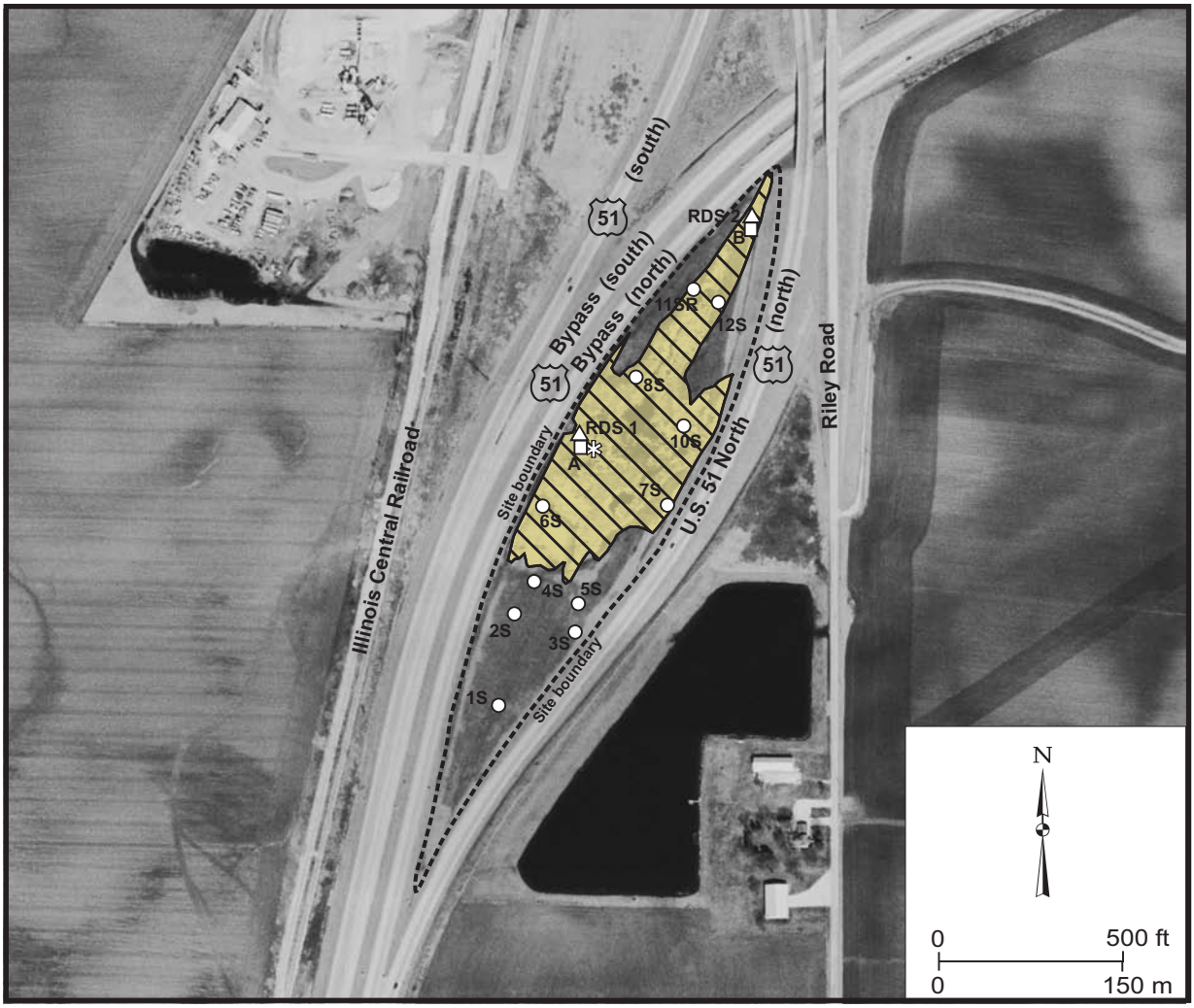


Decatur, U.S. Route 51 Wetland Compensation Site
(FAP 322)

Estimated Areal Extent of 2006 Wetland Hydrology

Based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Decatur SW quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2000)



2006 Wetland Hydrology

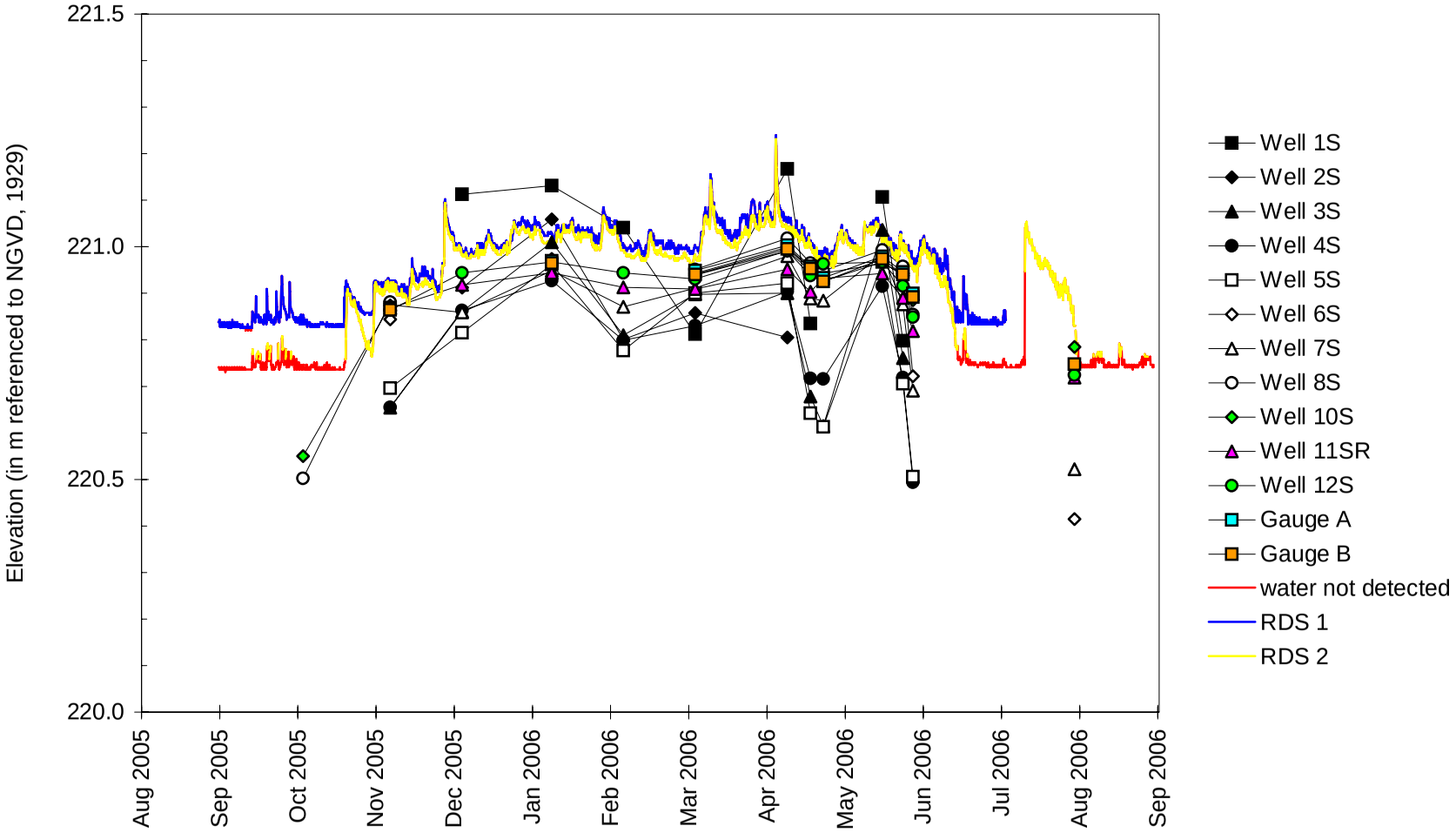
- >12.5% of the growing season
- >5% of the growing season

- ○ monitoring well
- □ staff gauge
- △ RDS data logger
- ❄ rain gauge

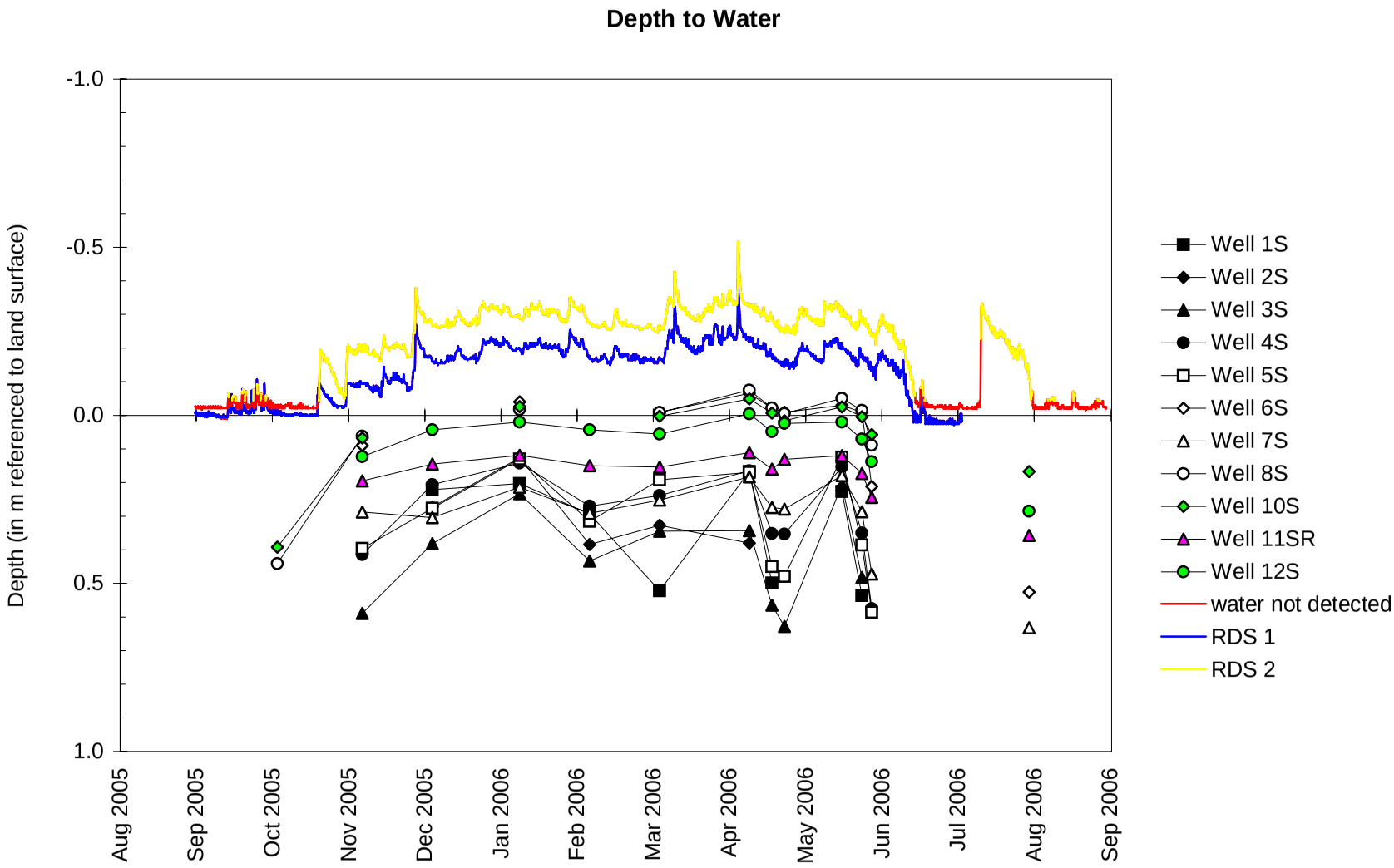
Decatur, U.S. Route 51 Wetland Compensation Site

September 1, 2005 to September 1, 2006

Water-Level Elevation

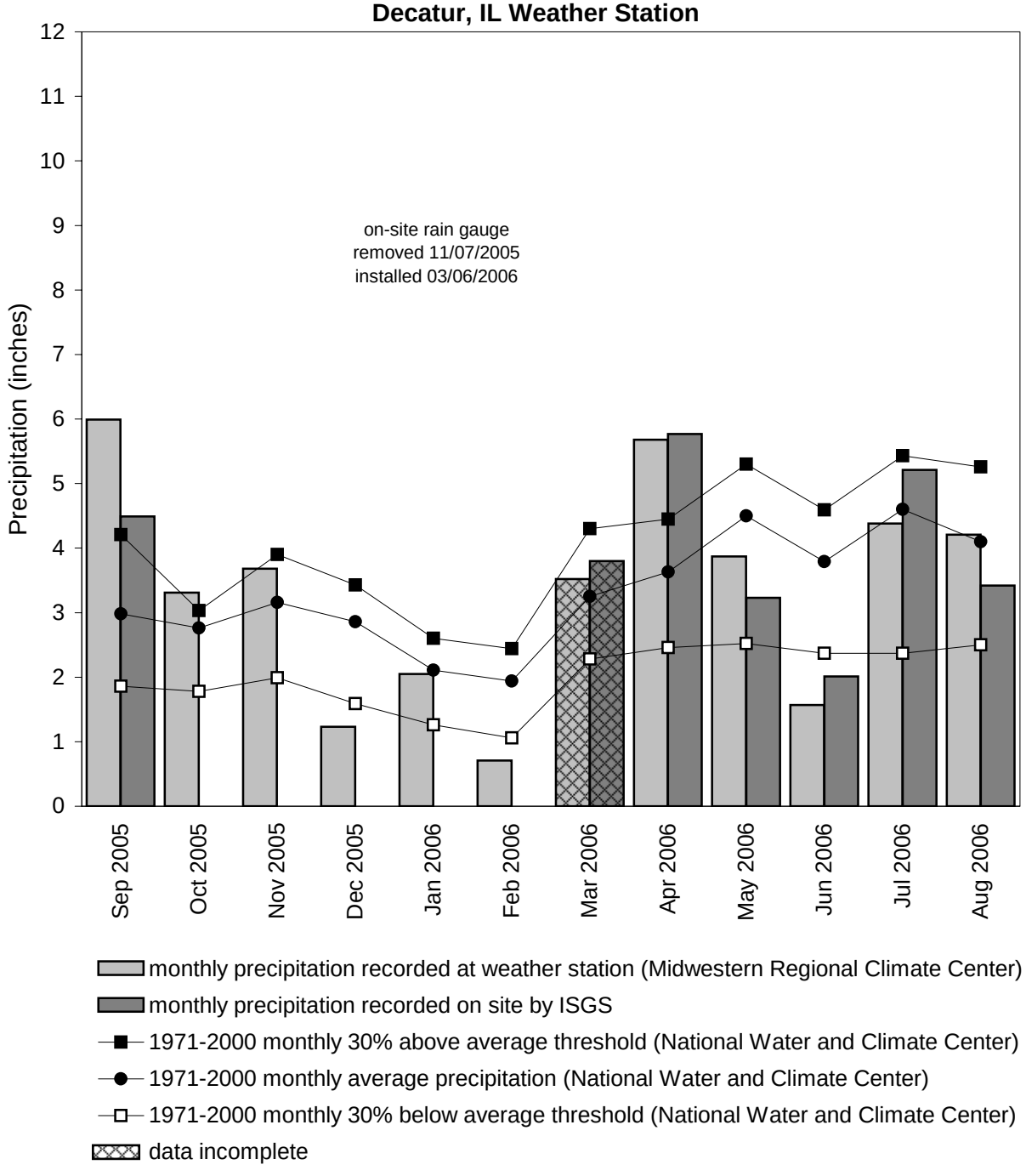


Decatur, U.S. Route 51 Wetland Compensation Site
September 1, 2005 to September 1, 2006



Decatur Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Decatur, IL Weather Station



Graph last updated October 13, 2006

GULFPORT **ISGS #29**
WETLAND COMPENSATION SITE
FAP 313
Henderson County, near Gulfport, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- September 1994: ISGS submitted an Initial Site Evaluation Report to IDOT.
- Fall 1997: IDOT completed excavation of the wetland basin.
- January 1998: ISGS began surface-water elevation monitoring at the site.
- March 2006: Site monitoring was completed.

WETLAND HYDROLOGY CALCULATION FOR 2006

Data collection at this site was discontinued in March 2006 at the request of IDOT. Therefore, no wetland hydrology calculation was performed for the 2006 growing season.

PLANNED FUTURE ACTIVITIES

- All data loggers were removed from the site in March 2006. Monitoring wells and staff gauges will be removed as time allows.

Gulfport Wetland Compensation Site

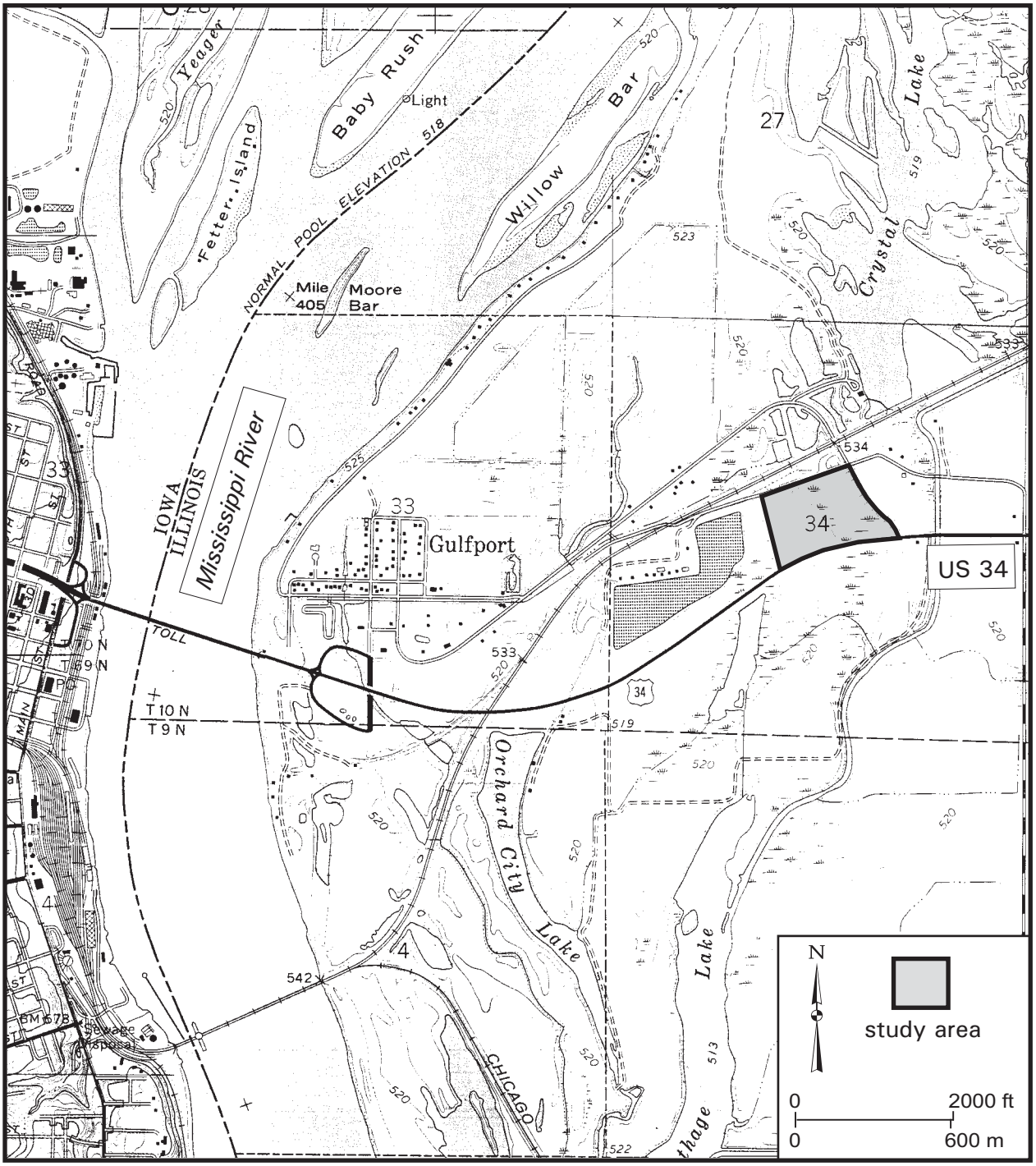
(FAP 313)

General Study Area and Vicinity

from the USGS Topographic Series, Burlington, IA-IL 7.5-minute Quadrangle

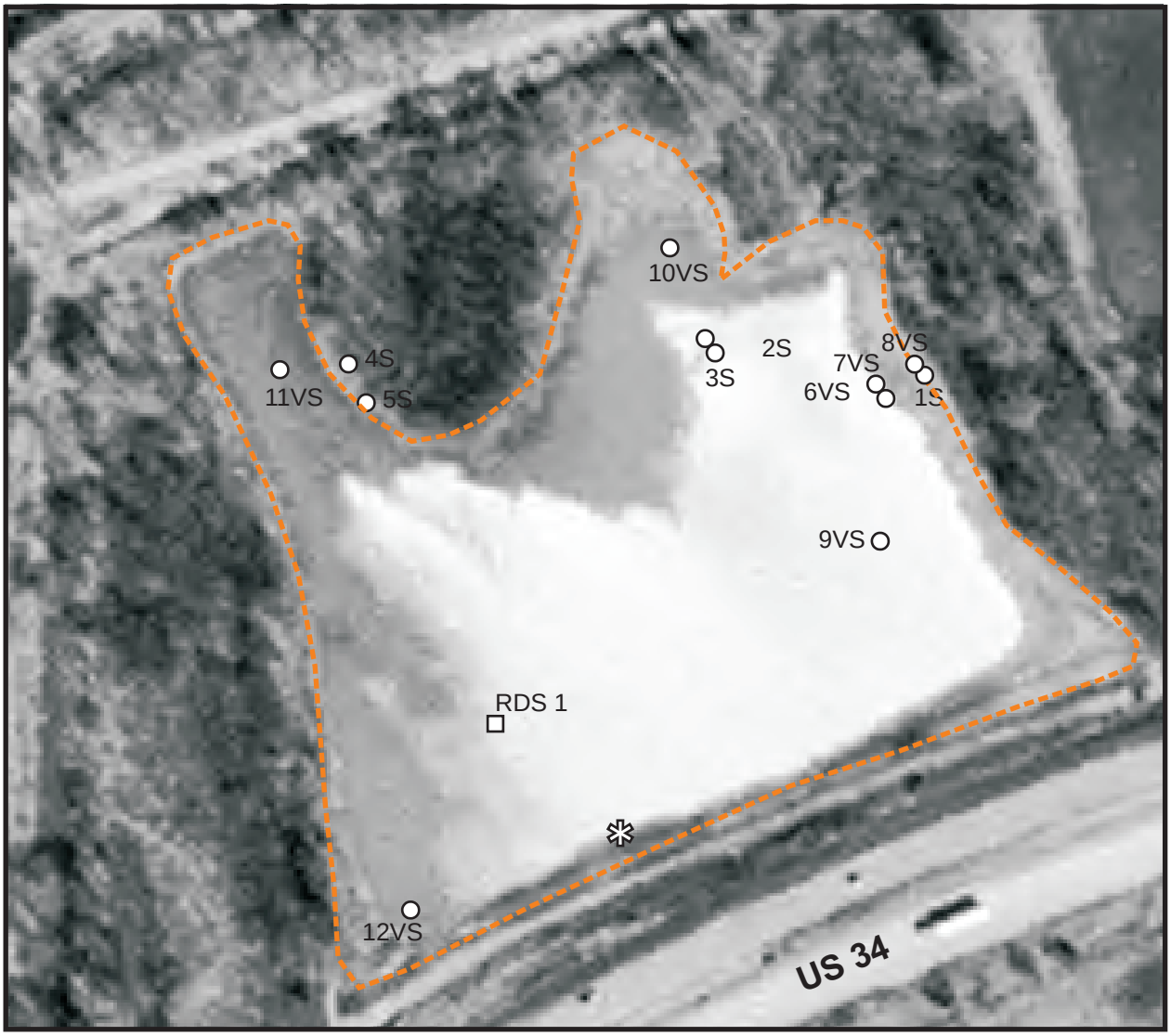
(USGS 1964, photorevised 1976)

contour interval is 10 feet



Gulfport Wetland Compensation Site
(FAP 313)
Instrument Location Map

Map based on USGS digital orthophotograph, Burlington NW quarter quadrangle
produced from 04/14/1998 aerial photography (ISGS 1999)



soil-zone monitoring well

rain gauge

RDS data logger

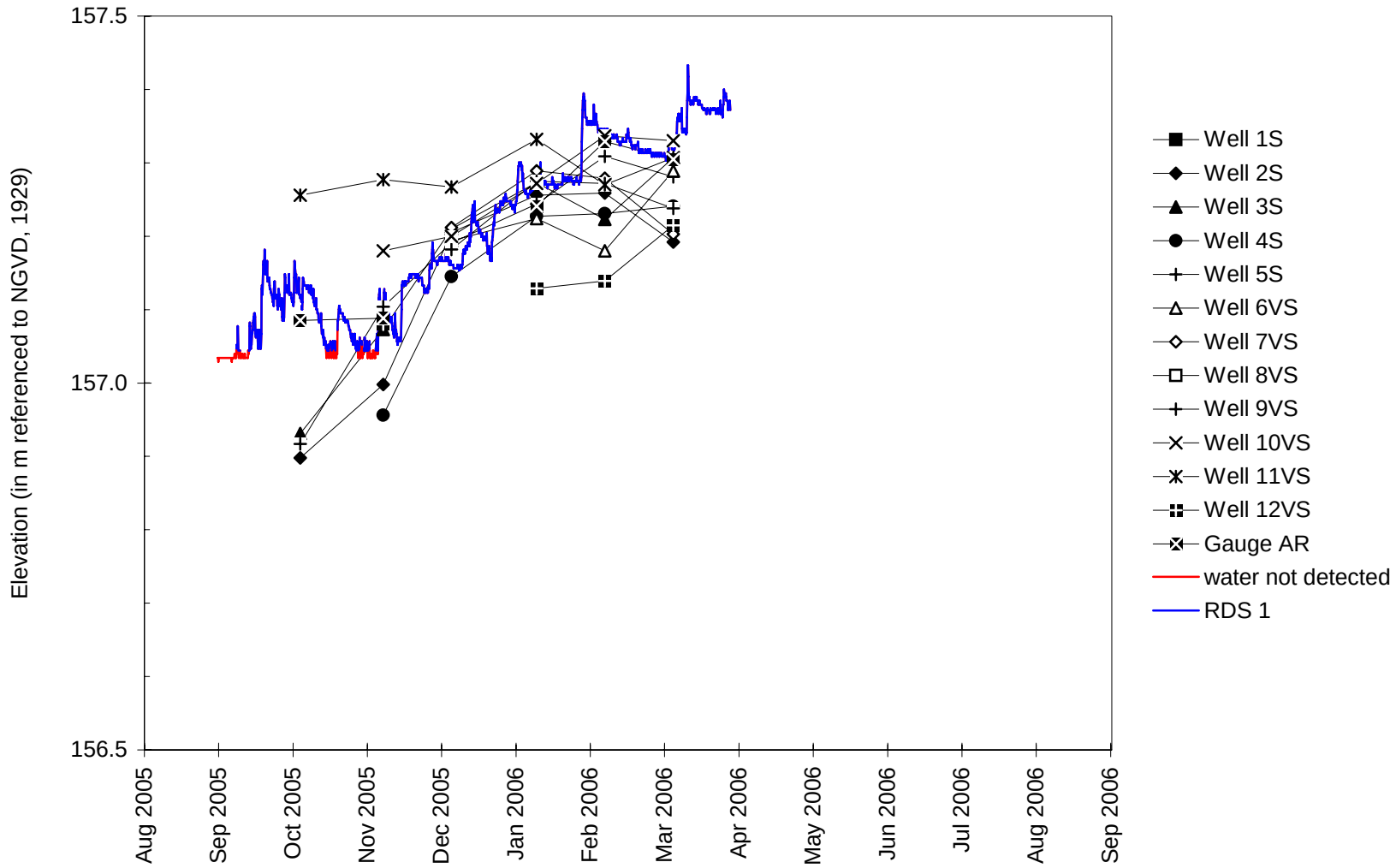
IDOT construction limits

0 200 ft
0 50 m

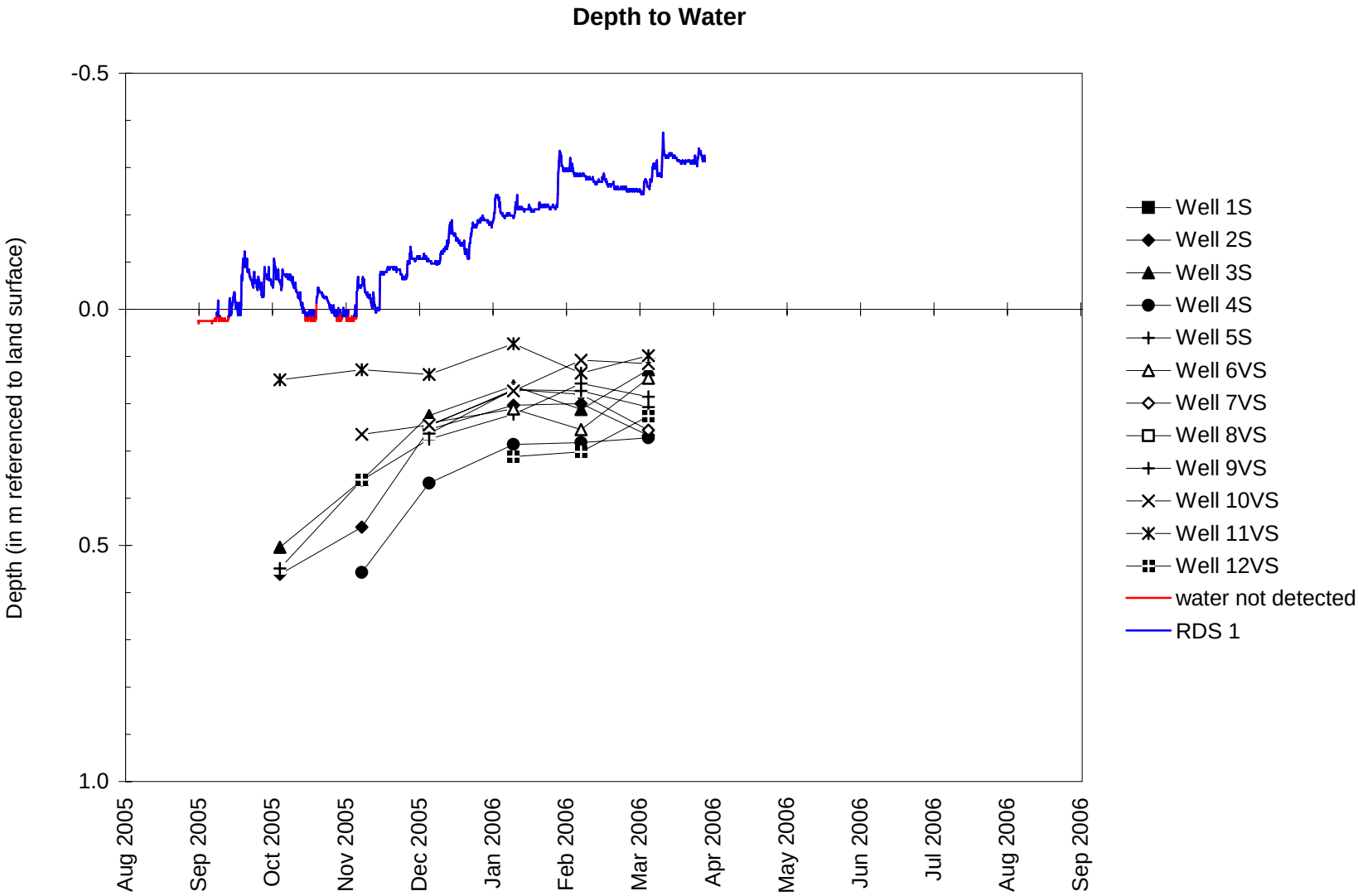
N

Gulfport Wetland Compensation Site
September 1, 2005 to September 1, 2006

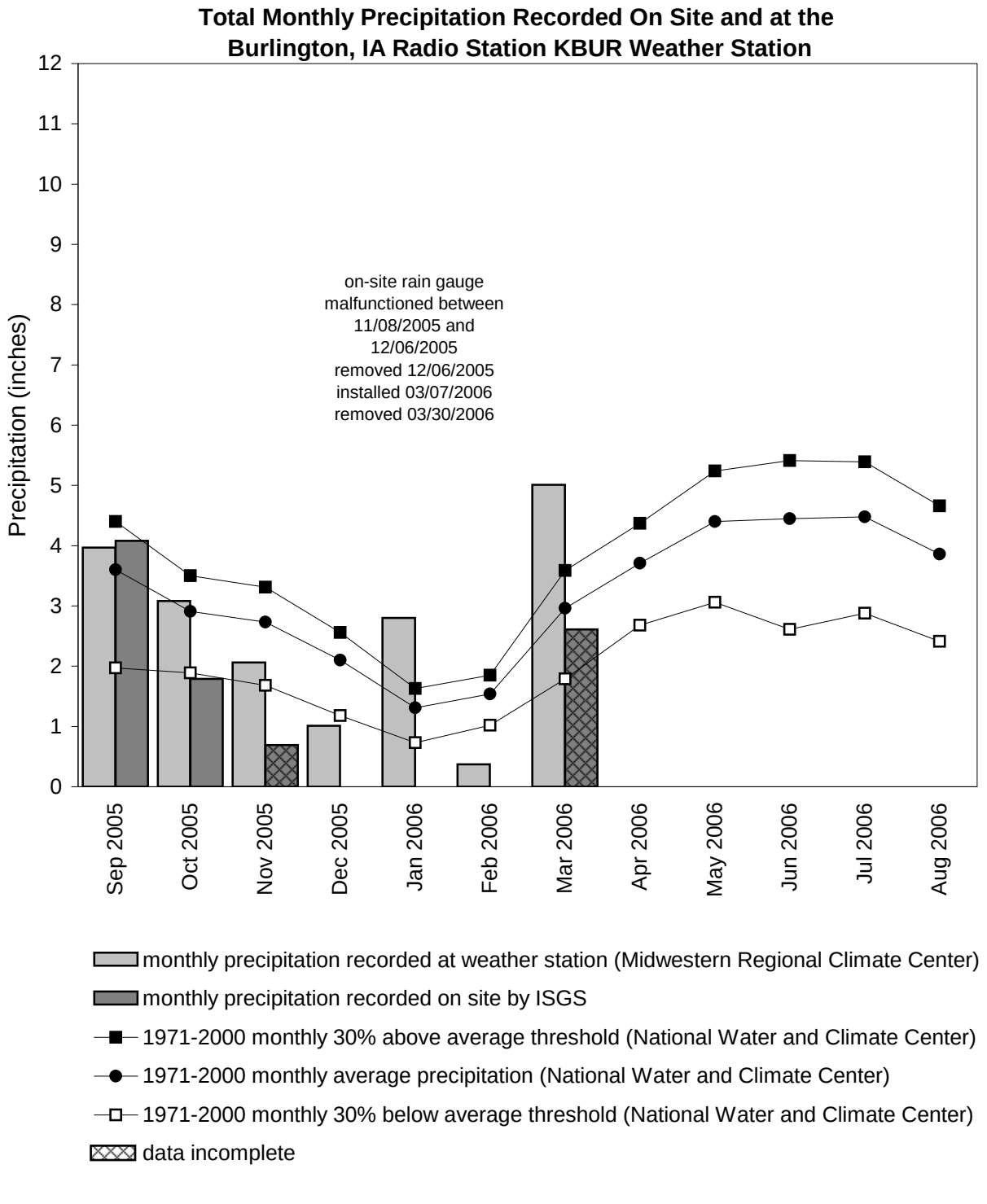
Water-Level Elevations



Gulfport Wetland Compensation Site
September 1, 2005 to September 1, 2006



Gulfport Wetland Compensation Site
September 2005 through August 2006



Weather station data after March 2006 are not graphed

HANCOCK COUNTY NEAR CARTHAGE **ISGS #42**
POTENTIAL WETLAND COMPENSATION SITE
FAP 315 & 10
Hancock County, near Carthage, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: not assigned

SITE HISTORY

- March 1997: IDOT tasked ISGS to monitor the site.

- August 2004: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open File Series 2004–13).

- July 2006: Wetland and highway construction began. Highway construction plans include a new road bed, new lanes, and a new bridge over the La Moine River north of the existing portion of U.S. 136. Wetland construction plans include excavation in areas identified in the June 2001, Hancock County Wetland Mitigation Bank Hydrology/Hydraulics Evaluation.

WETLAND HYDROLOGY CALCULATION FOR 2006

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2006 growing season was estimated to be 0.0 ha (0.0 ac) out of an area of 17.9 ha (44.3 ac). The area of the site that satisfied wetland hydrology criteria for more than 12.5% of the growing season was estimated to be 0.0 ha (0.0 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby La Harpe, Illinois, is April 9 and the season lasts 196 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation recorded at Bentley, Illinois during the 2006 monitoring period was 26.04 inches, which was 71% of normal. Data recorded at Bentley reveal that only one month during the monitoring period (March 2006) had above-normal precipitation.

- No monitoring wells satisfied the criteria for wetland hydrology at either 5% or 12.5%.

- Surface-water elevations measured at RDS 1, RDS 2, and RDS 3 reveal that inundation occurred for brief periods throughout the growing season, but that the longest periods were less than 5% of the growing season.

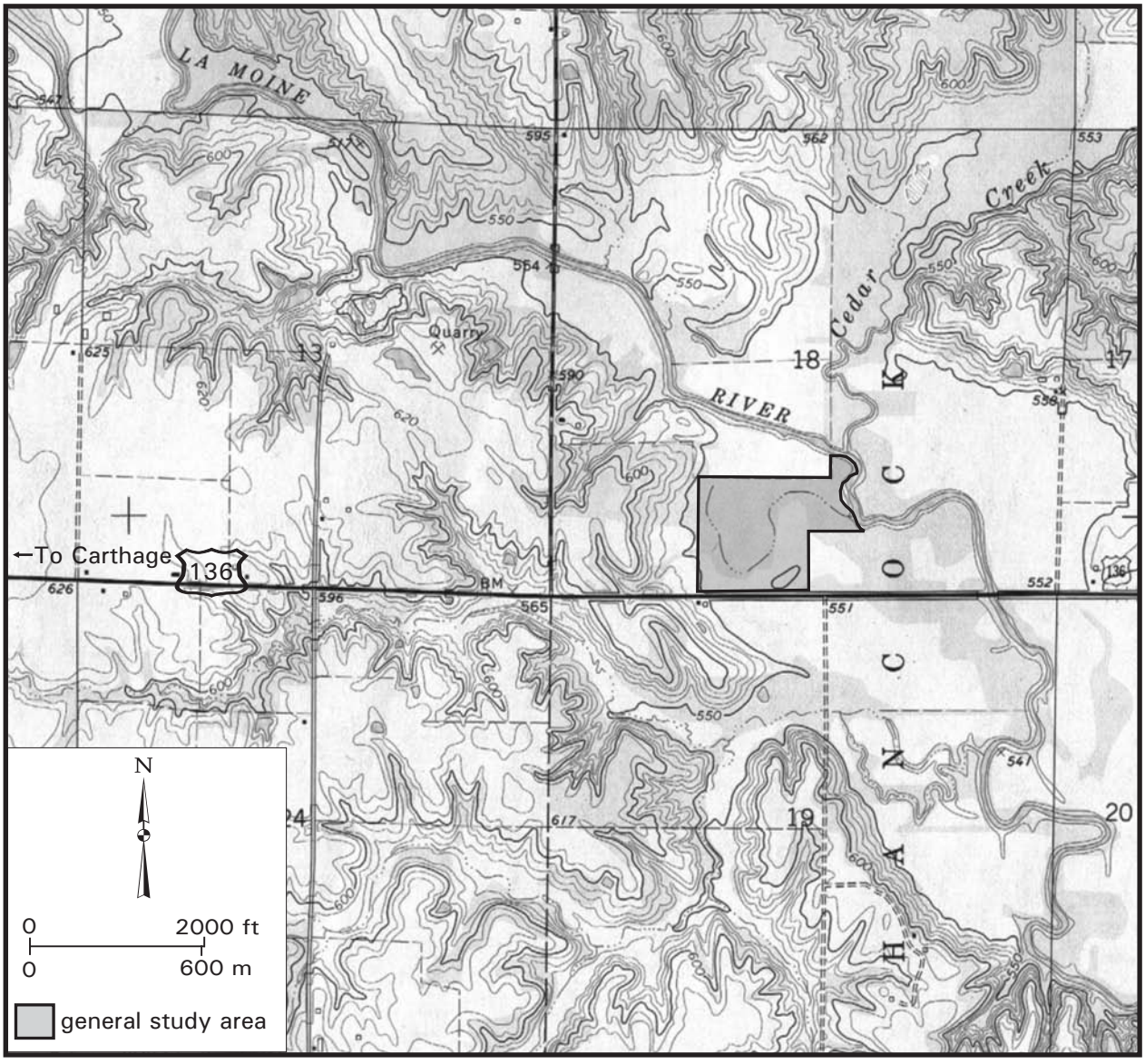
PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until no longer required by IDOT.

- New monitoring wells and staff gauges will be installed when wetland construction is completed.

Hancock County near Carthage
Potential Wetland Compensation Site
(FAP 315 and FAP 10)
General Study Area and Vicinity

from the USGS Topographic Series, Carthage East, IL 7.5-minute Quadrangle (USGS 1974)
contour interval is 10 feet

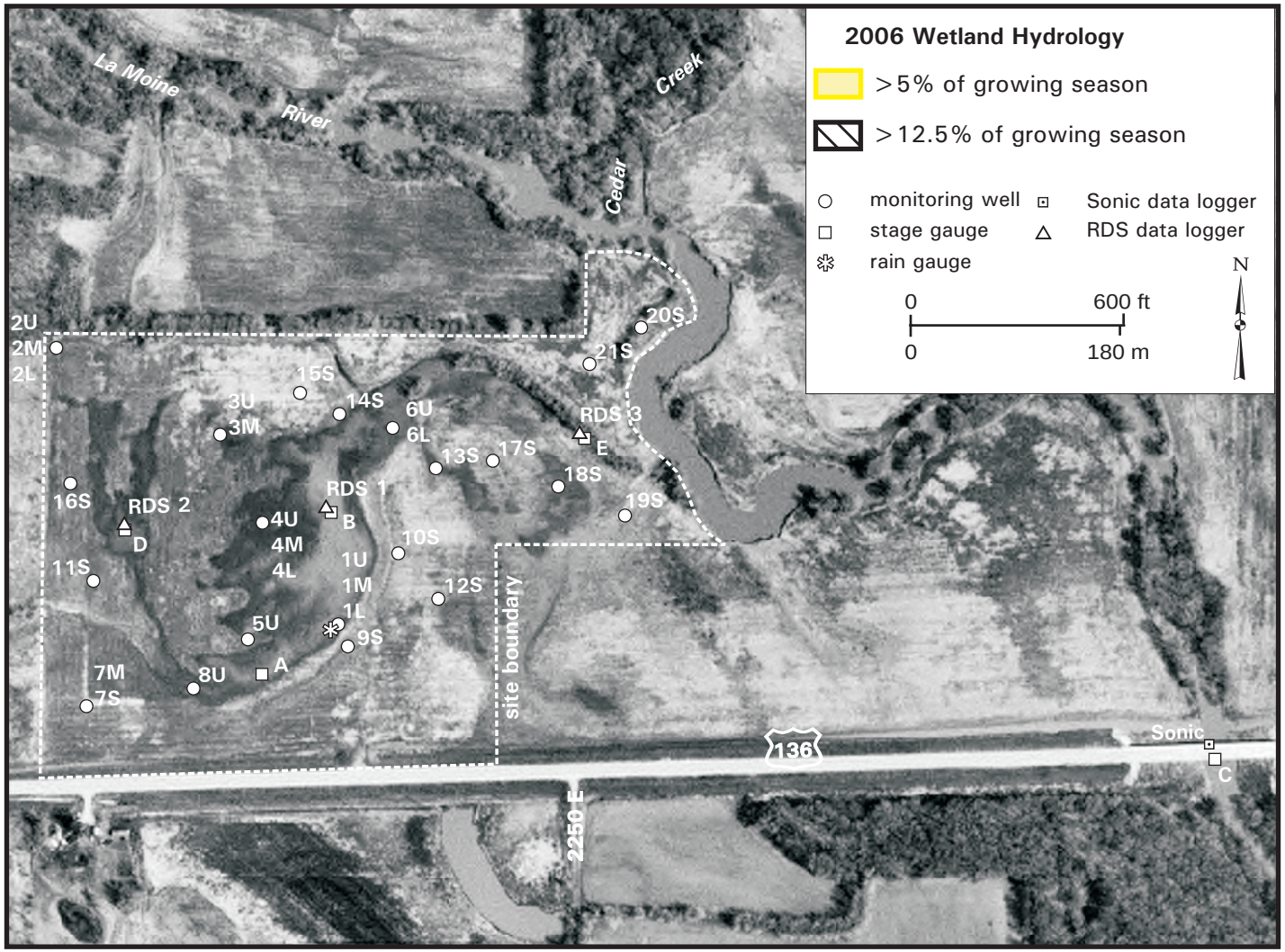


Hancock County near Carthage Potential Wetland Compensation Site (FAP 315 and FAP 10)

Estimated Areal Extent of 2006 Wetland Hydrology

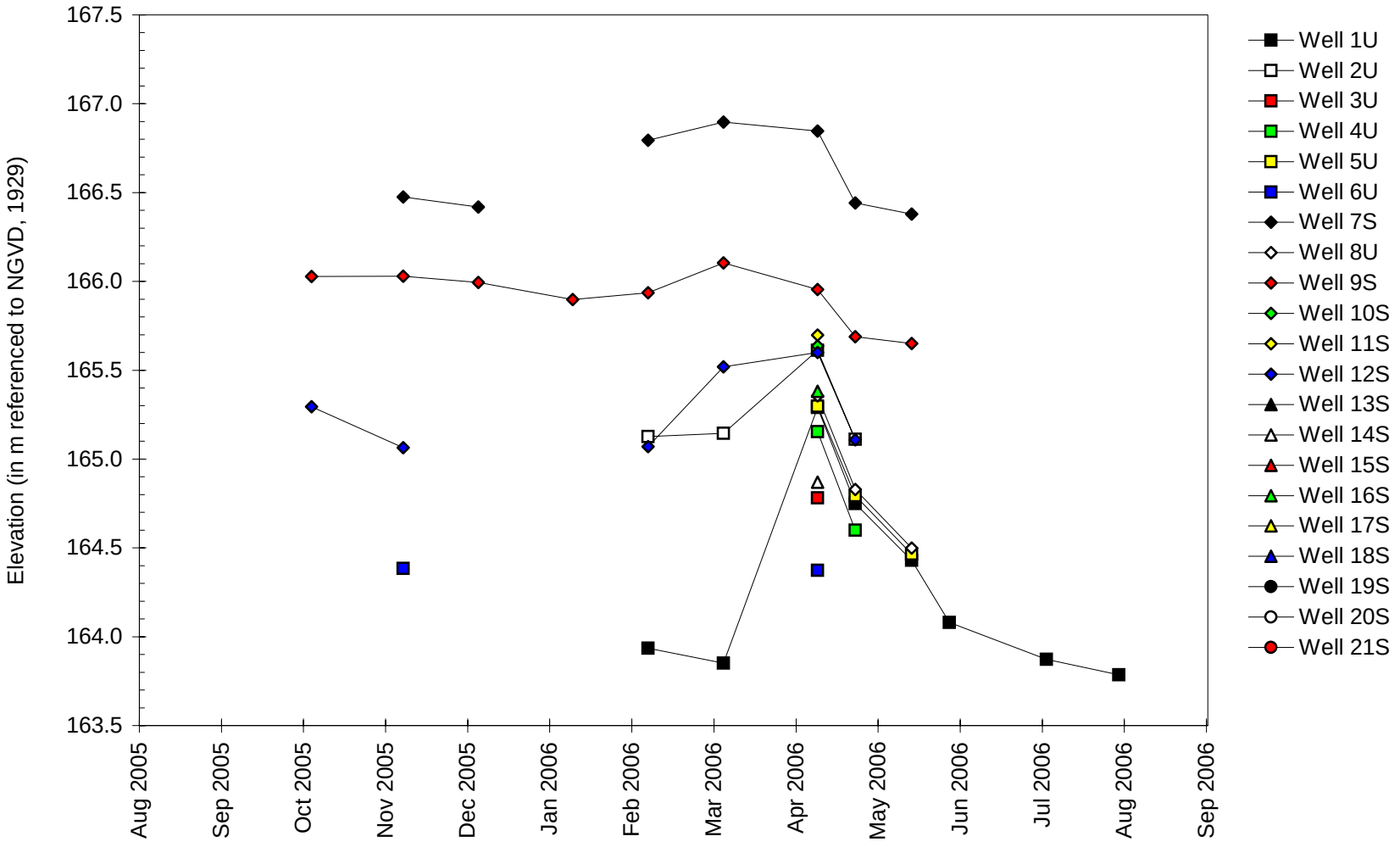
based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Carthage East SE quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2002)



Hancock County near Carthage Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

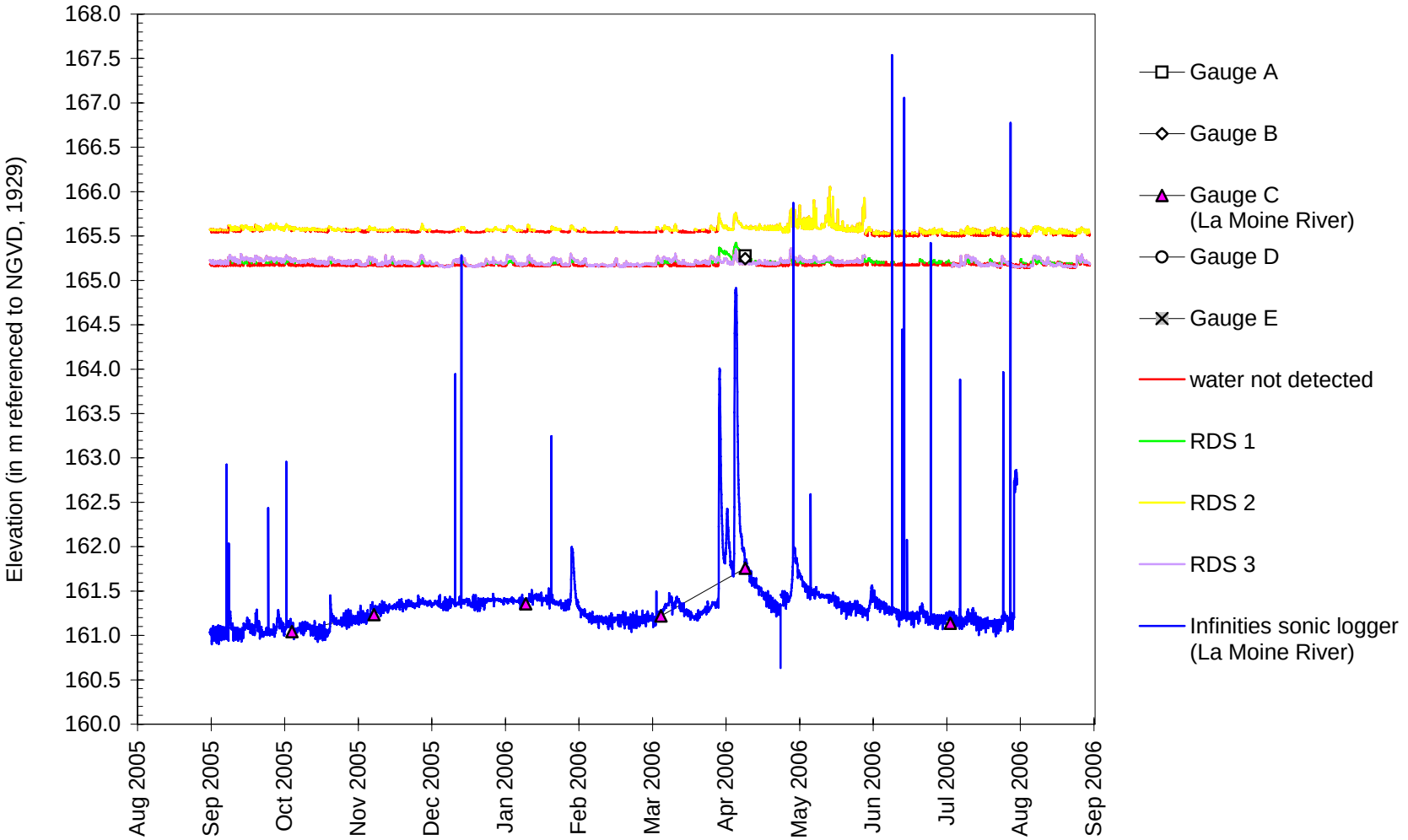
Water-Level Elevations
in Wells Used to Determine Areas Satisfying Wetland Hydrology Criteria



Hancock County near Carthage Potential Wetland Compensation Site

September 1, 2005 to September 1, 2006

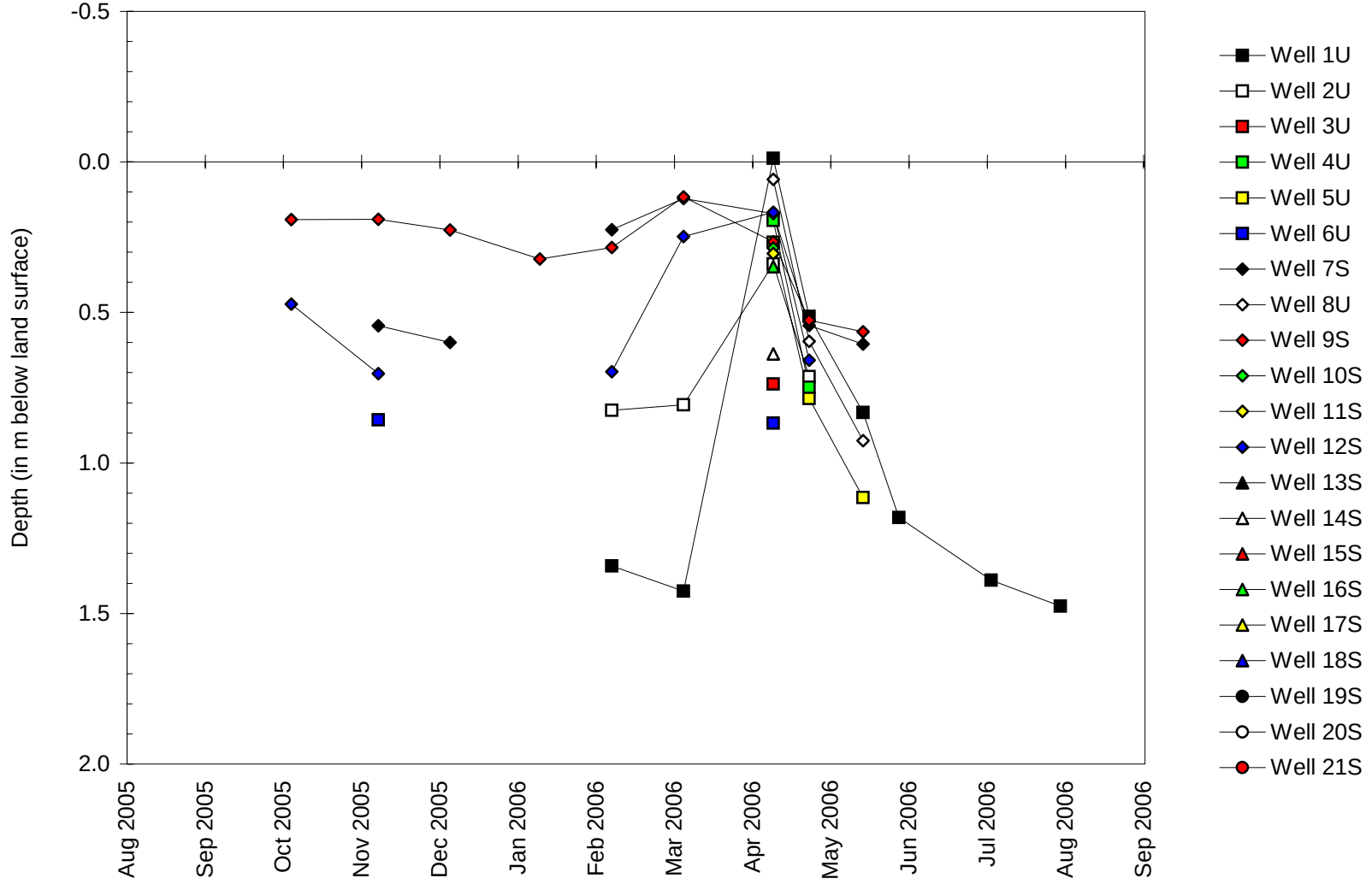
Water-Level Elevations
on Stage Gauges and at Data Loggers



Hancock County near Carthage Potential Wetland Compensation Site

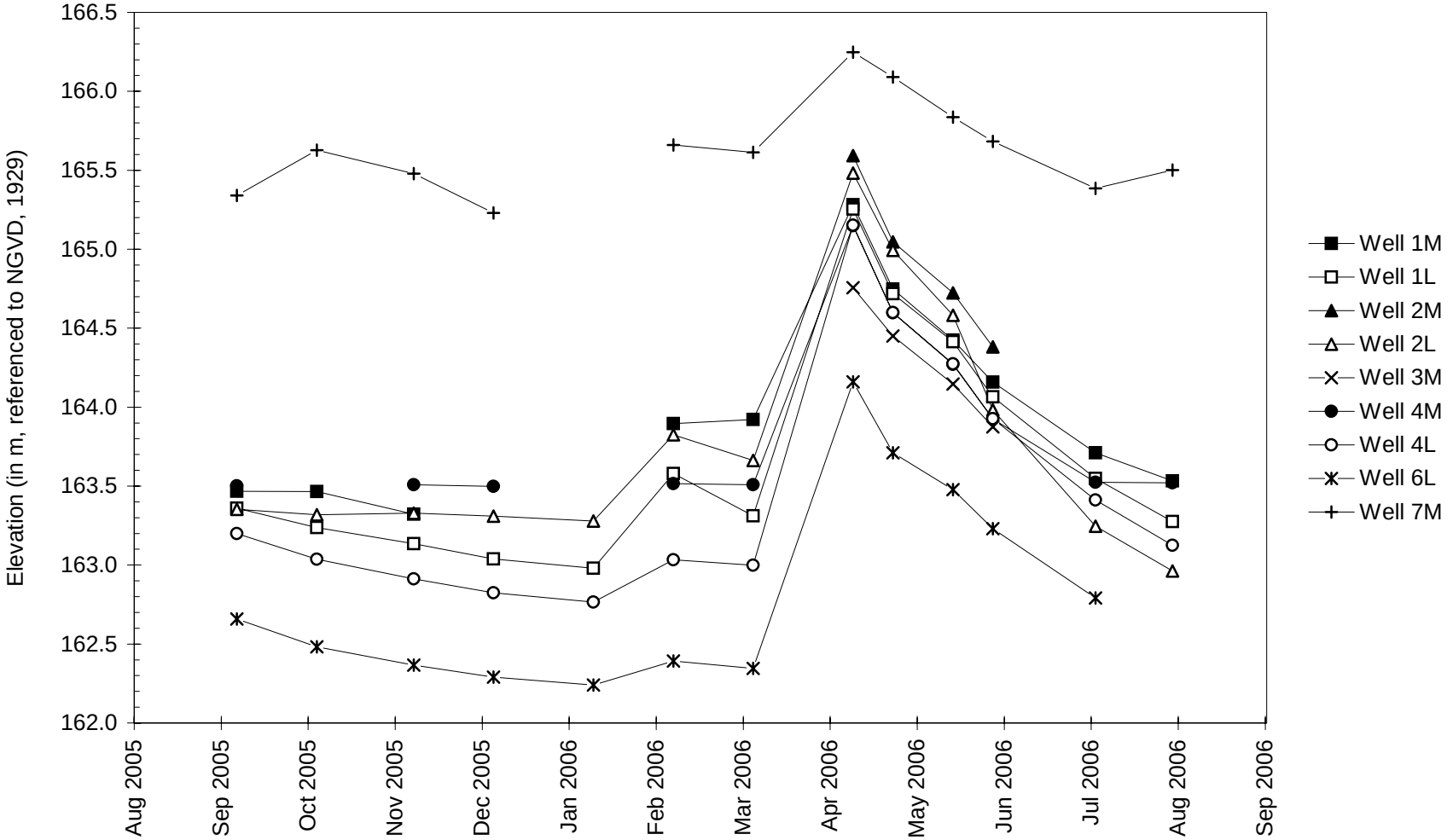
September 1, 2005 to September 1, 2006

Depth to Water
in Wells Used to Determine Areas Satisfying Wetland Hydrology Criteria

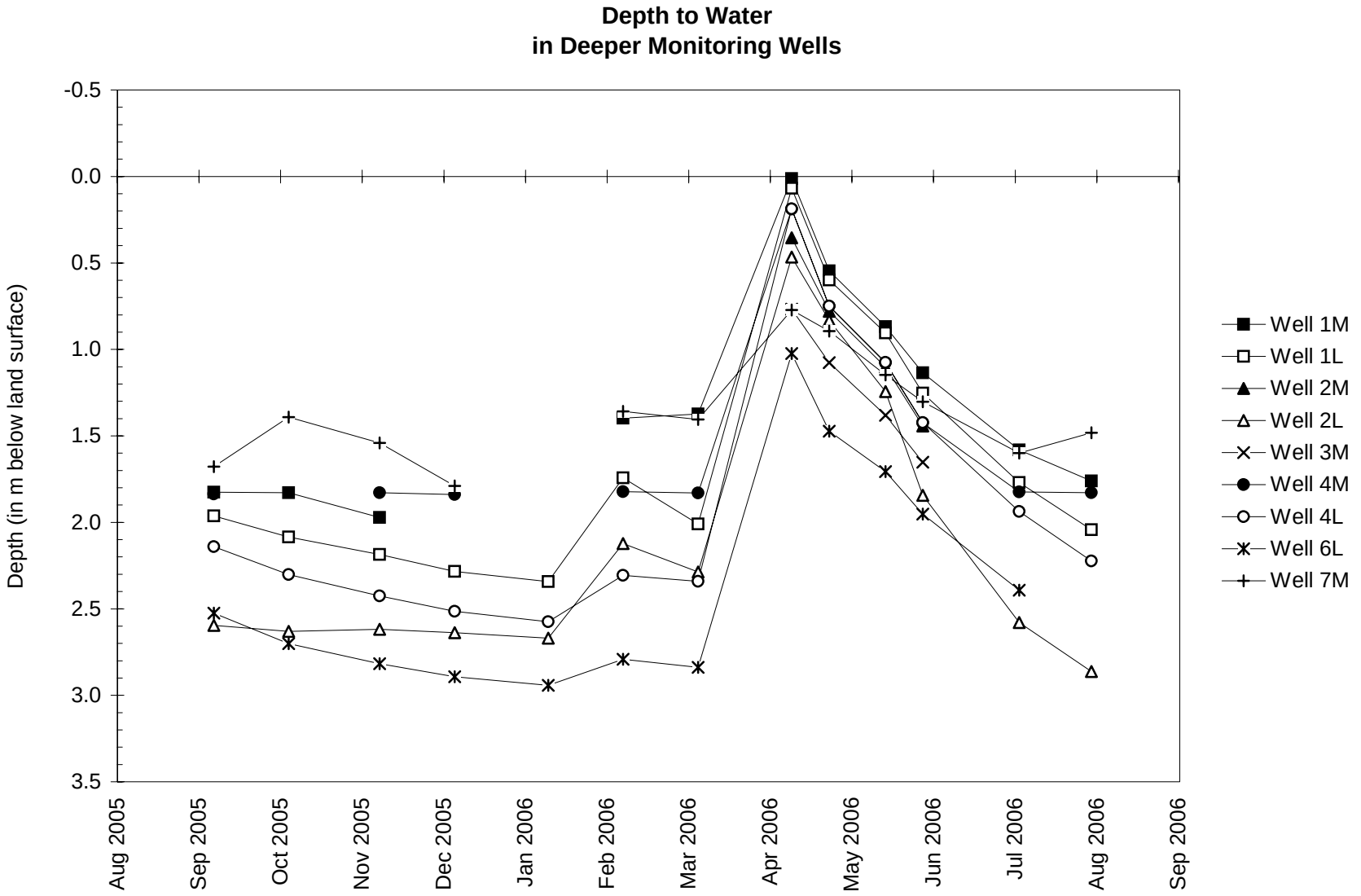


Hancock County near Carthage Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

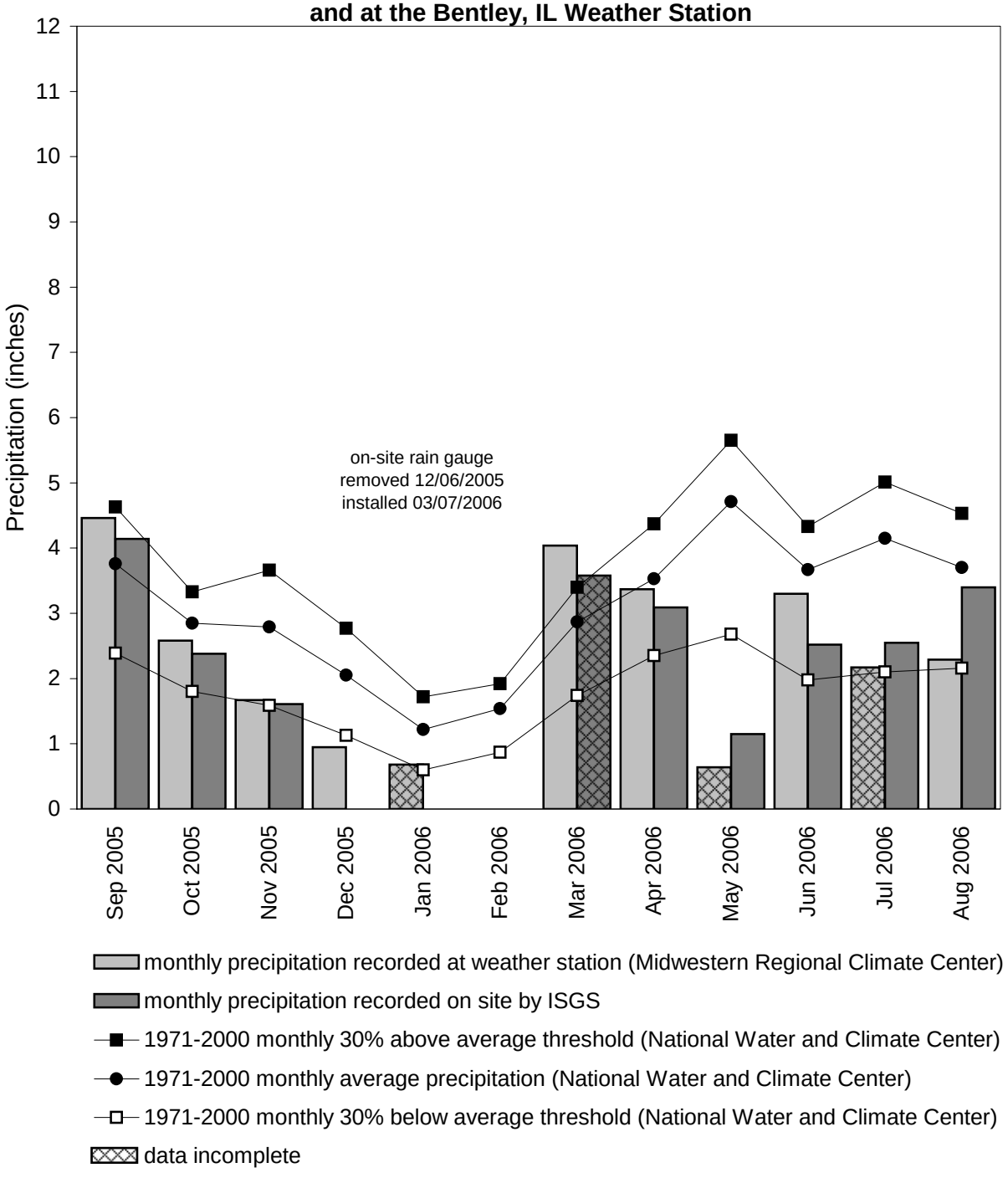
Water-Level Elevations
in Deeper Monitoring Wells



Hancock County near Carthage Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006



Hancock County near Carthage
Potential Wetland Compensation Site
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Bentley, IL Weather Station



Graph last updated October 13, 2006

MILAN BELTWAY, GREEN ROCK **ISGS #44**
WETLAND COMPENSATION SITE
FAU 5822
Sequence #67
Henry County, near Green Rock, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: not assigned

SITE HISTORY

- December 2005: IDOT tasked the ISGS to conduct 5-year performance monitoring of the Green Rock wetland mitigation site.

- March 2006: The monitoring network was installed.

WETLAND HYDROLOGY CALCULATION FOR 2006

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2006 growing season was estimated to be 0.0 ha (0.0 ac) out of an area of 25.1 ha (62.0 ac). The area that satisfied wetland hydrology criteria for more than 12.5% of the growing season was estimated to be 0.0 ha (0.0 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins at the Quad City International Airport in nearby Moline, Illinois, is April 13 and the season lasts 196 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation during the monitoring period was 33.71 inches, which was 89% of normal. Five months during the period (January, March, April, July, and August 2006) were at or above normal. Total precipitation in the spring was 77% of normal.

- Water levels in none of the monitoring wells satisfied wetland hydrology criteria for either 5% or 12.5% of the growing season.

- Ground-surface elevations measured at the site mostly ranged from 172.7 m(566.6 ft) to 172.9 m (567.3 ft). The highest elevation measured, 173.7 m (569.9 ft), was at the top of the natural levee near well 3S. The Green River did not get high enough to inundate the site.

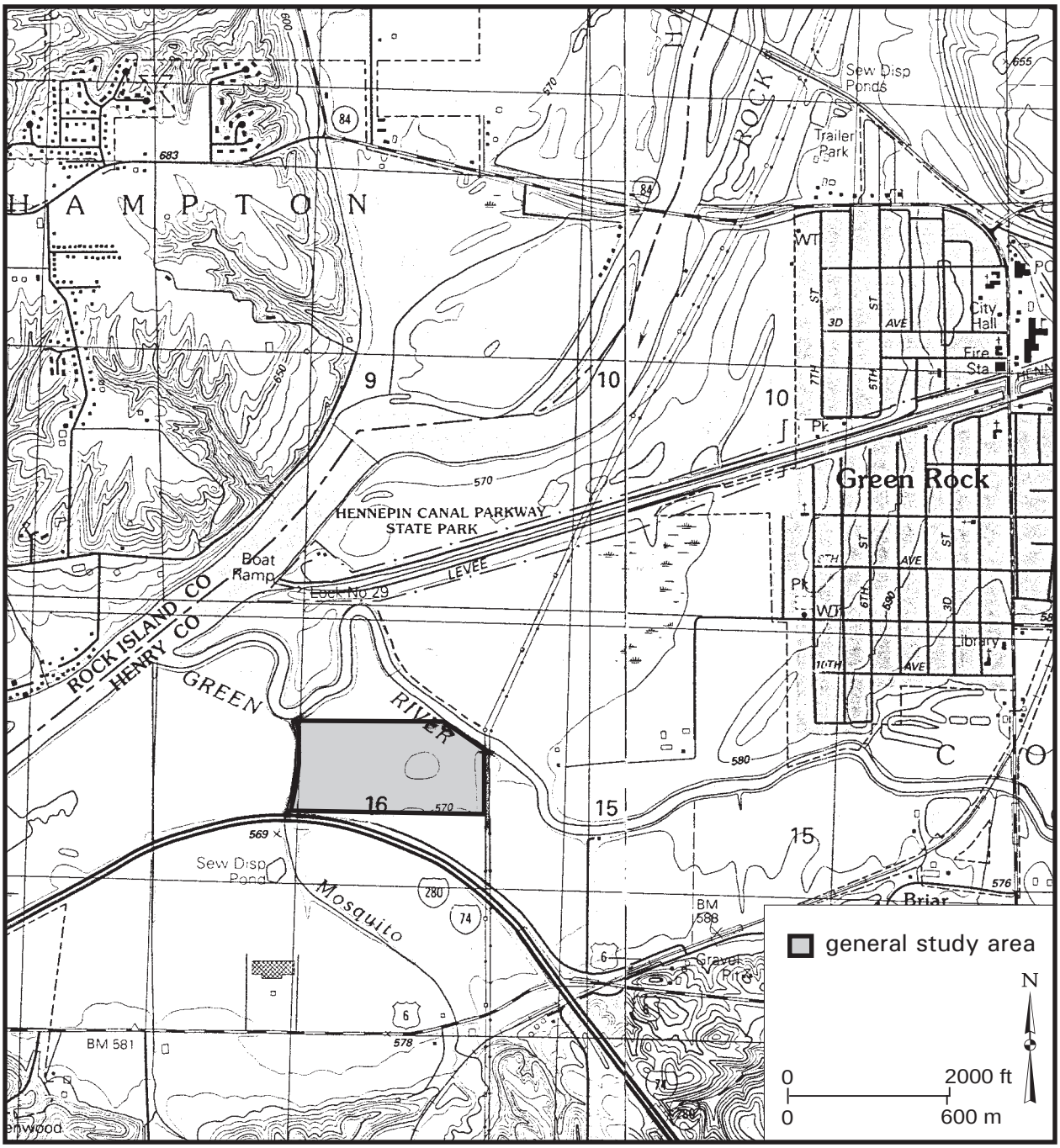
PLANNED FUTURE ACTIVITIES

- Monitoring of the site will continue until notified otherwise by IDOT.

Milan Beltway, Green Rock Potential Wetland Compensation Site (FAU 5822)

General Study Area and Vicinity

from the USGS Topographic Series, Coal Valley, IL (W) (USGS 1991) and
Green Rock, IL (E) (USGS 1992) 7.5-minute Quadrangles
contour interval is 10 feet

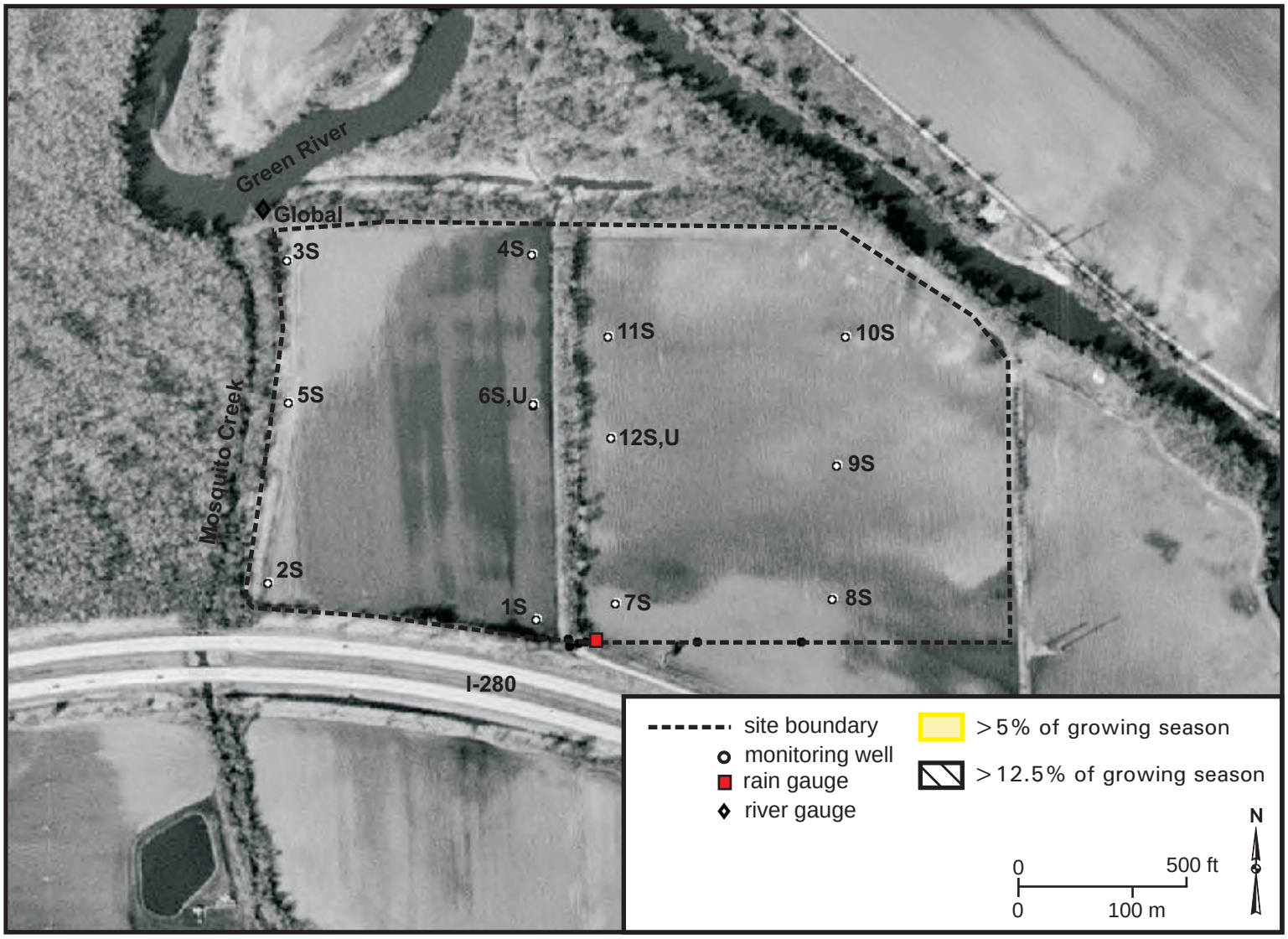


Milan Beltway, Green Rock Wetland Compensation Site (FAU 5822)

Estimated Areal Extent of 2006 Wetland Hydrology

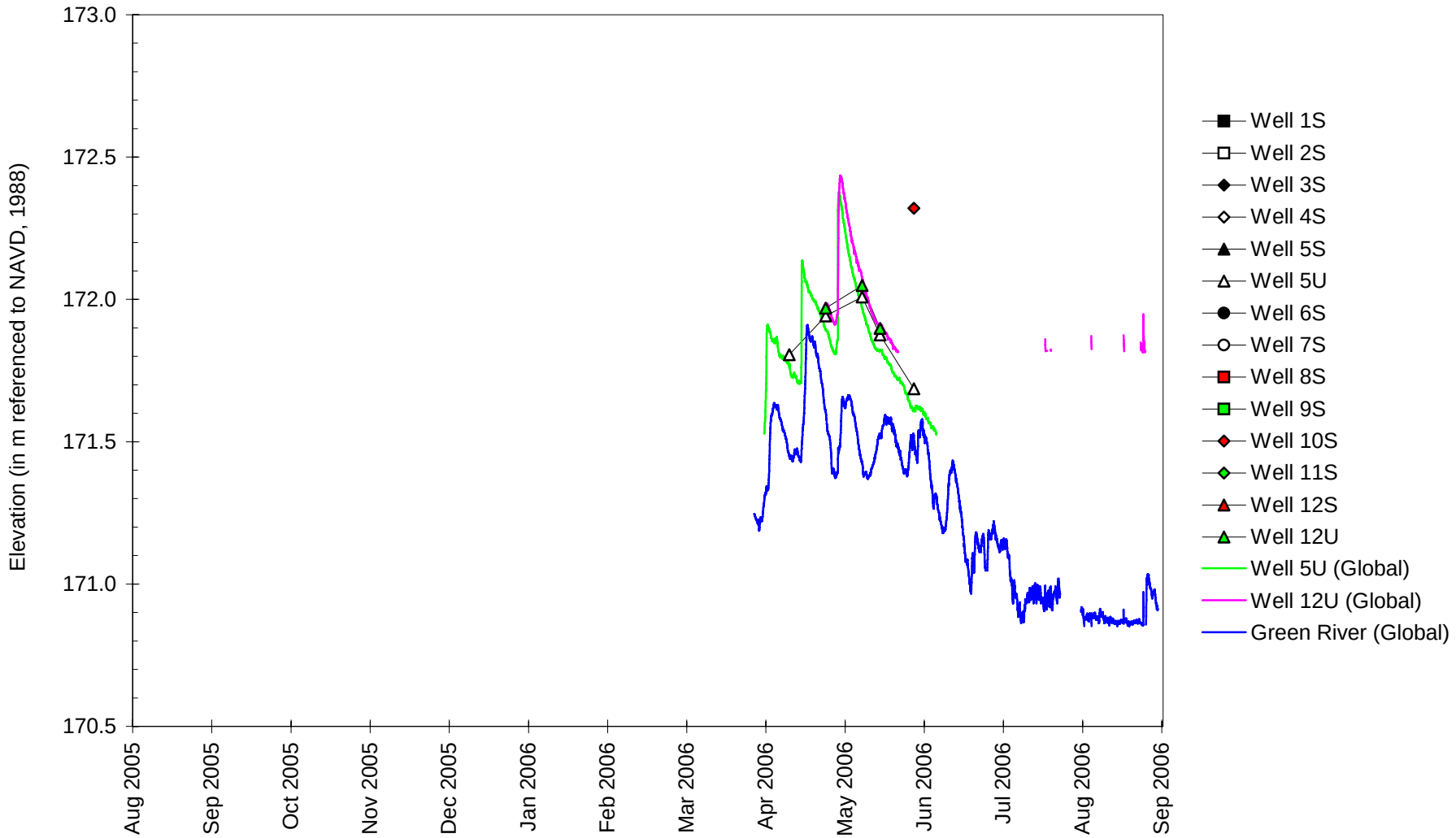
based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Coal Valley NE quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2006)



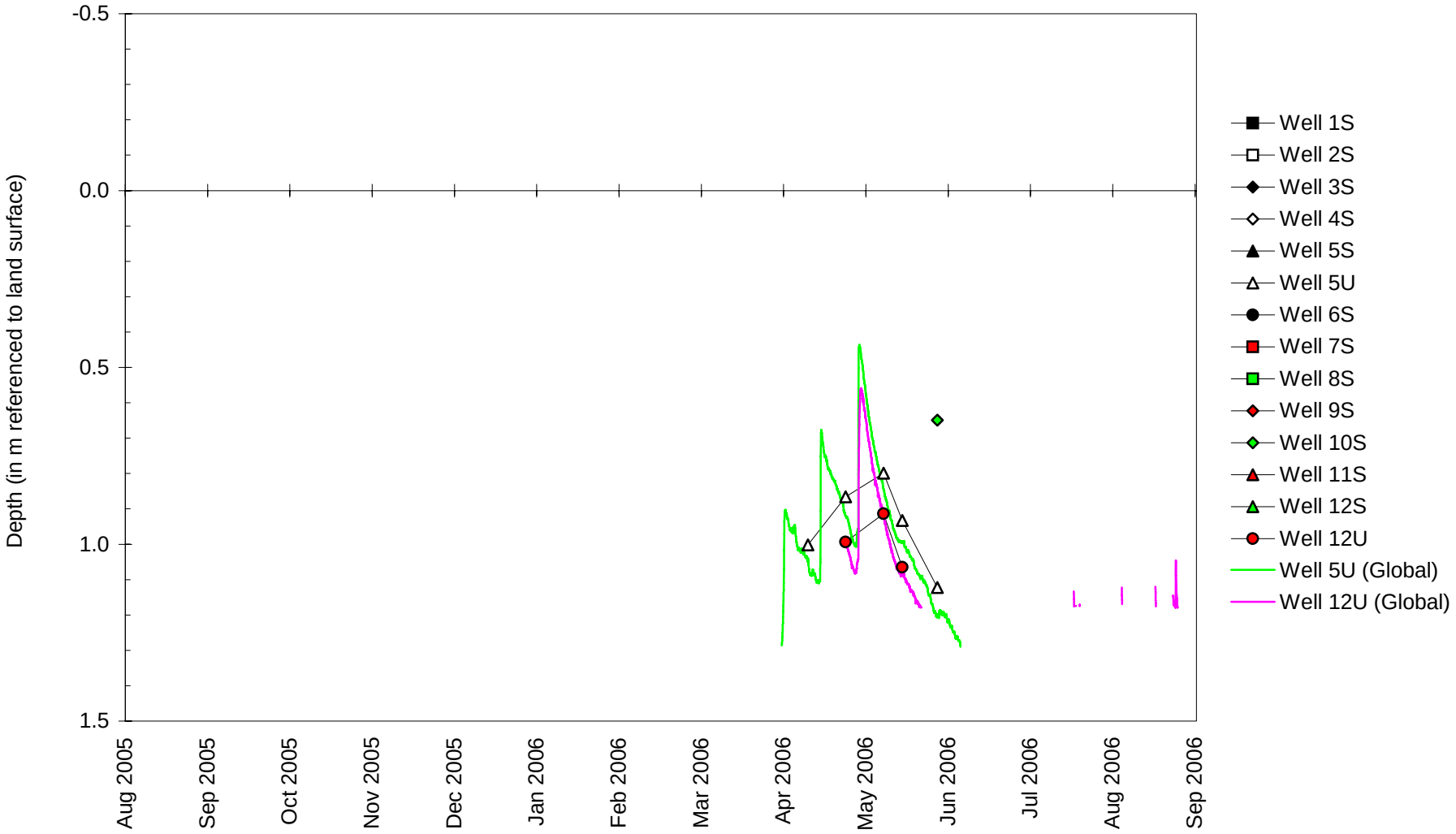
Green Rock Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations



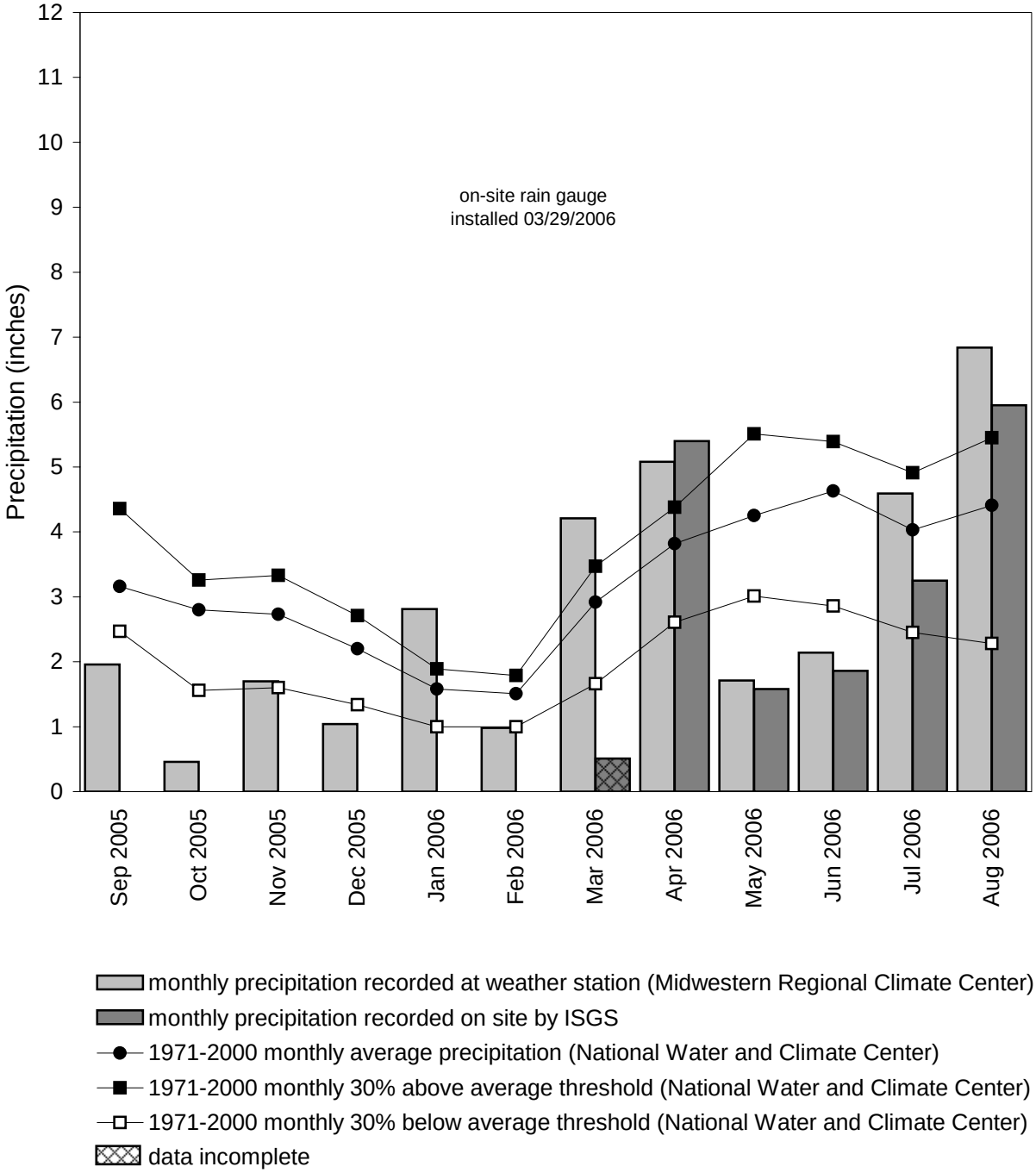
Green Rock Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water



Green Rock Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Quad City International Airport Weather Station, Moline, IL



Graph last updated October 13, 2006

MORRIS, ILLINOIS RIVER **ISGS #49**
WETLAND BANK SITE
Sequence #1306
Grundy County, near Morris, Illinois
Primary Project Manager: Keith W. Carr
Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- March 1999: ISGS was tasked by IDOT to perform a Level II hydrogeologic assessment of the potential banking site.

- August 1999: ISGS began monitoring ground- and surface-water levels at the site.

- April 2003: During this month, drainage tile removal activities began in the east field, an area also known as the "spider" field. A second segment of tile was removed from this field during December of 2003. This concluded tile removal work at the bank site.

- Spring 2004: Trees were planted over large areas of the site. These areas, generally within soil units mapped by the NRCS and INHS as hydric, are fields slated for wetland restoration in the IDOT banking instrument.

- Spring 2006: Site instrumentation was altered in this year, as monitoring was discontinued at a total of 14 soil-zone wells in "mesic" areas. These areas have never met wetland hydrology criteria and are not slated for wetland preservation, enhancement, or restoration. Further, six soil-zone wells were added in mapped hydric-soil areas. Data collection was also discontinued at 11 deeper monitoring wells which were uninvolved in the monitoring of wetland hydrology at the site.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that the total area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006 was 0.85 ha (2.1 ac) out of a total site area of 342 ha (844 ac). The same acreage of 0.85 ha (2.1 ac) also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Morris, Illinois is April 13 and the season lasts 187 days; 5% of the growing season is 9 days and 12.5% of the growing season is 23 days.

- Total precipitation for the monitoring period was 86% of normal. In the critical March to June period, precipitation was 92% of normal. Despite the near-normal precipitation recorded nearby, the basin is still undergoing a persistent drought which began in 2005. According to data from the National Drought Mitigation Center, conditions at the site and/or within the basin of the Illinois River have ranged from D3 (extreme drought) to D0 (abnormally dry) between January 3 and April 25 of 2006 (National Drought Mitigation Center 2006).

- Water levels measured in none of the 38 soil-zone monitoring wells satisfied wetland hydrology criteria.

- In the 2005–2006 season, an on-site data logger at SW2 showed that four river-flood events that occurred within the growing season reached peak stage values sufficient to exceed an elevation of 149.35 m (490 ft), which is the approximate bankfull elevation of the Mazon River and Mud Slough. However, these overbank floods, which peaked at 150.09 m (492.42 ft) on April 18, 149.63 m (490.91 ft) on May 25, 149.82 m (491.53 ft) on May 31, and 150.23 m (492.88 ft) on September 14, did not attain elevations sufficient to flood widespread areas of the site. Also, the four floods had an average duration over bankfull of only 2.0 days and a maximum duration of 2.4 days, insufficient to meet wetland hydrology criteria. Flood elevations of at least 150.27 to 150.57 m (493 to 494 ft) are required to encompass the majority of the areas of the site undergoing wetland restoration.

- According to staff-gauge data, a closed depression at SW5 with an area of 0.33 ha (0.82 ac) was inundated for a period greater than 5% of the growing season to a level of 149.84 m (491.60 ft). The same acreage of 0.33 ha (0.82 ac) was also inundated for a period greater than 12.5% of the growing season to a nearly identical level of 149.83 m (491.56 ft). Also, a second closed depression near SW7 with an area of 0.52 ha (1.28 ac) was inundated for a period greater than 5% of the growing season to a level of 149.29 m (489.79 ft). The same acreage of 0.52 ha (1.28 ac) was inundated for a period greater than 12.5% of the growing season to a level of 149.28 m (489.76 ft). Both of these locations are designated areas of wetland preservation in the banking instrument.

- As in previous years, perennial water bodies such as the creek channels were not included in areas having met wetland hydrology criteria.

- Limitations of the wetland hydrology determination are as follows:
  - On two separate occasions (May 31 and Sept 15, 2006), lack of site access to the “spider” field due to flooded overflow channels resulted in a loss of monitoring data for eight well nests and three staff gauges in this field. Subsequent data analysis has shown that no additional acreage of wetland hydrology was likely to result from the lost data in this monitoring year. Lack of access to this field has been an ongoing problem for several years, and a permanent repair of the drainageway crossings will guard against any data loss in the future.

PLANNED FUTURE ACTIVITIES

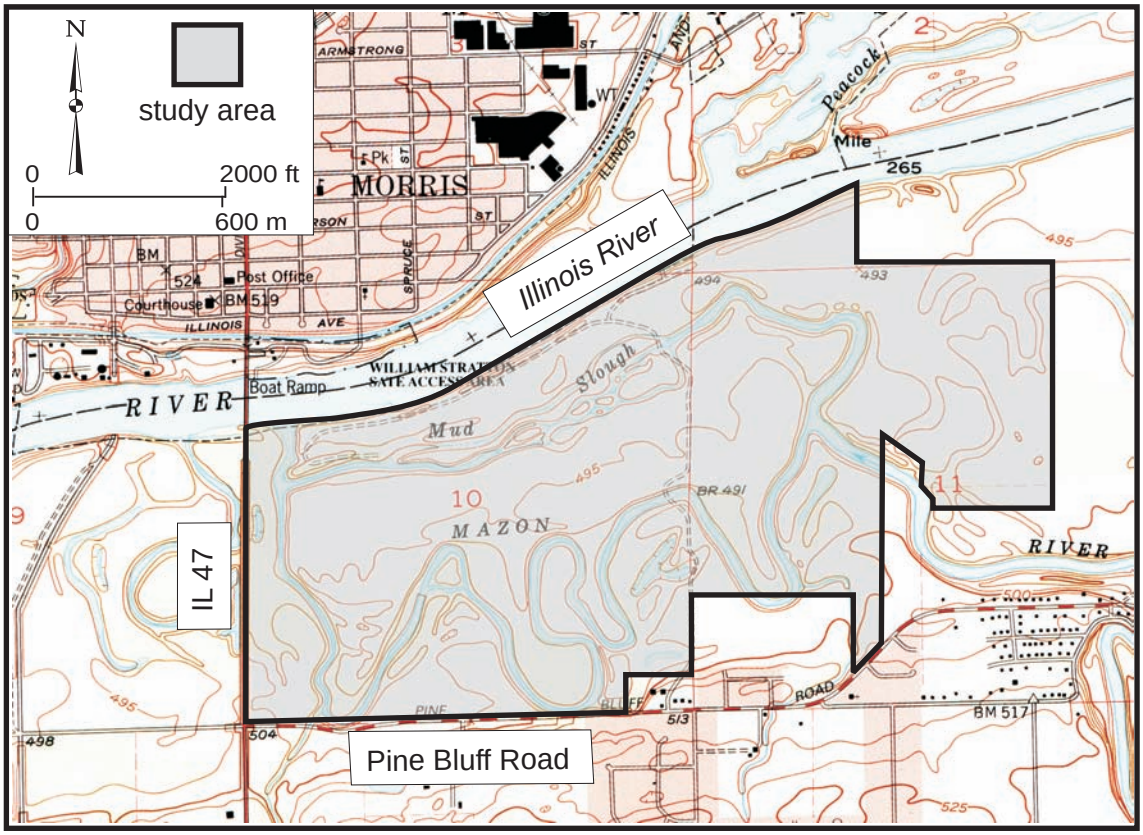
- ISGS has been asked by IDOT to continue the current concentration on the monitoring of areas slated for wetland preservation, enhancement, or restoration, with special attention in 2007 to areas of floodplain forest wetlands. Some additional soil-zone wells and data loggers will be employed in the spring in response to this request. An additional staff gauge or data logger will also be added to a closed depression in the central area of the site.

- Monitoring will continue until no longer required by IDOT.

Morris, Illinois River Wetland Bank Site

General Study Area and Vicinity

from the USGS Topographic Series, Morris, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 5 feet

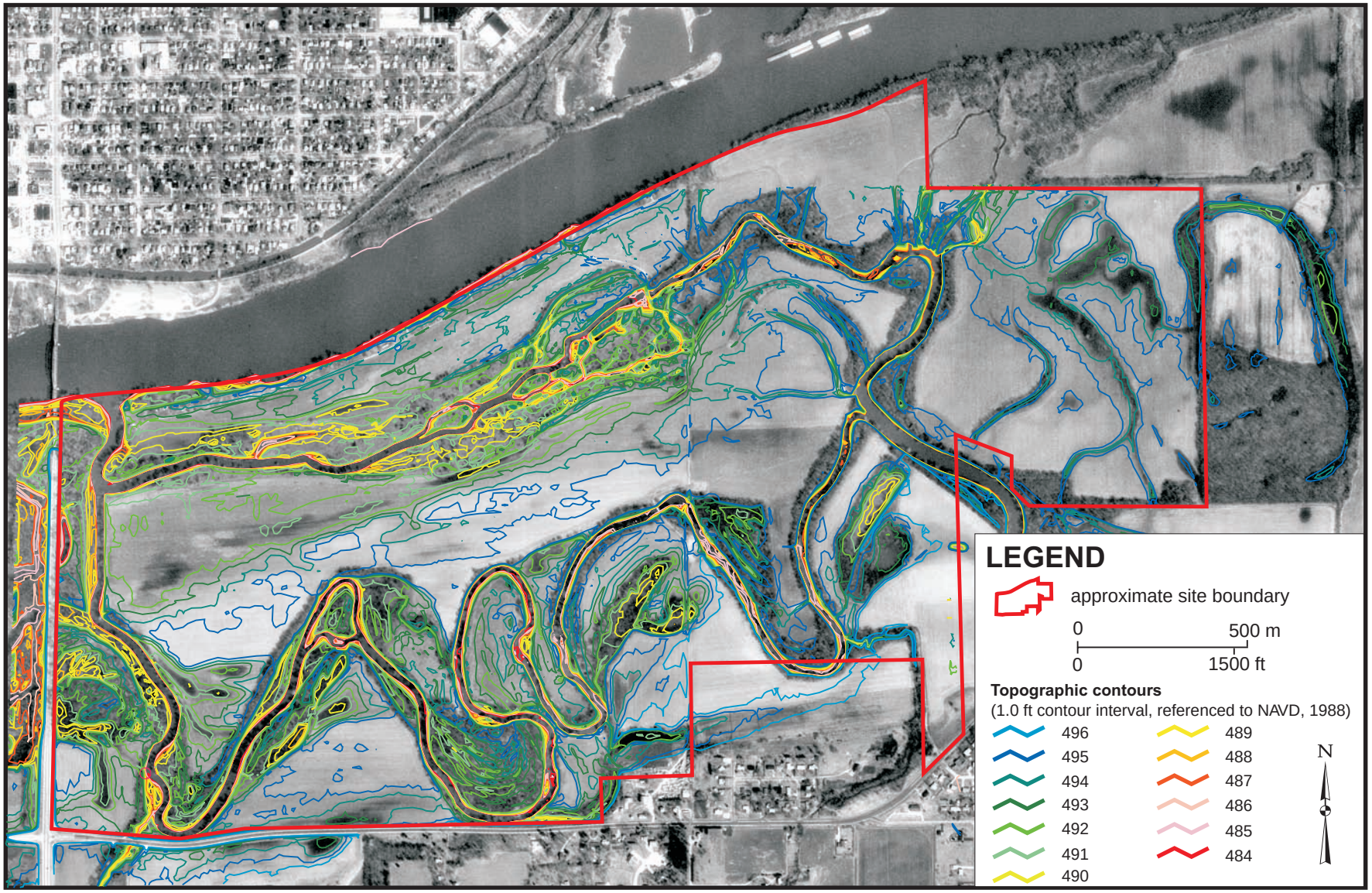


Morris, Illinois River Wetland Bank Site

Site Topographic Map (IDOT / INHS)

contours prepared by Illinois Natural History Survey in May 2000, using IDOT survey data

Map based on USGS digital orthophotograph, Morris NE quarter quadrangle
from 4/5/1998 aerial photography (ISGS 2001)

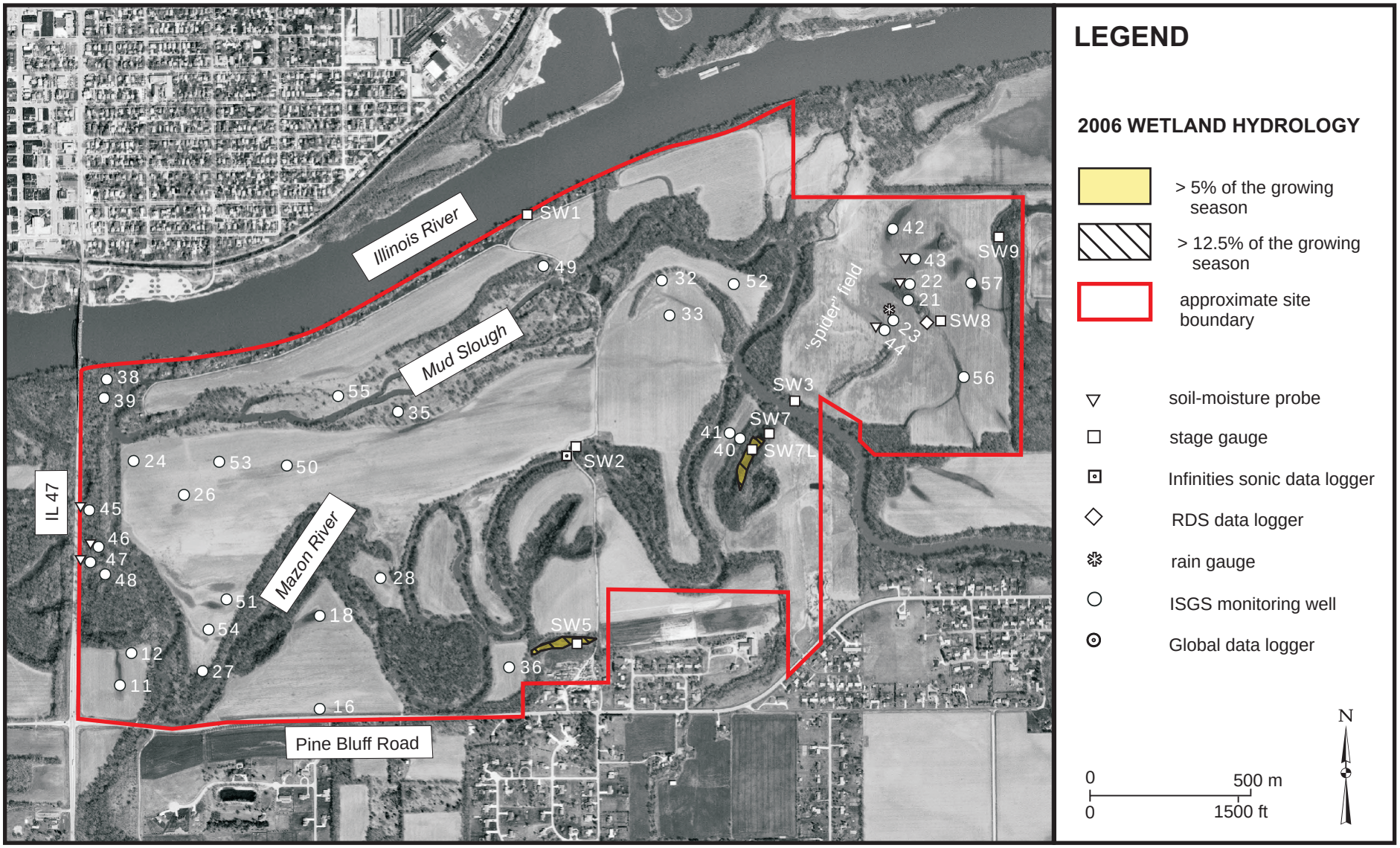


Morris, Illinois River Wetland Bank Site

Estimated Areal Extent of 2006 Wetland Hydrology

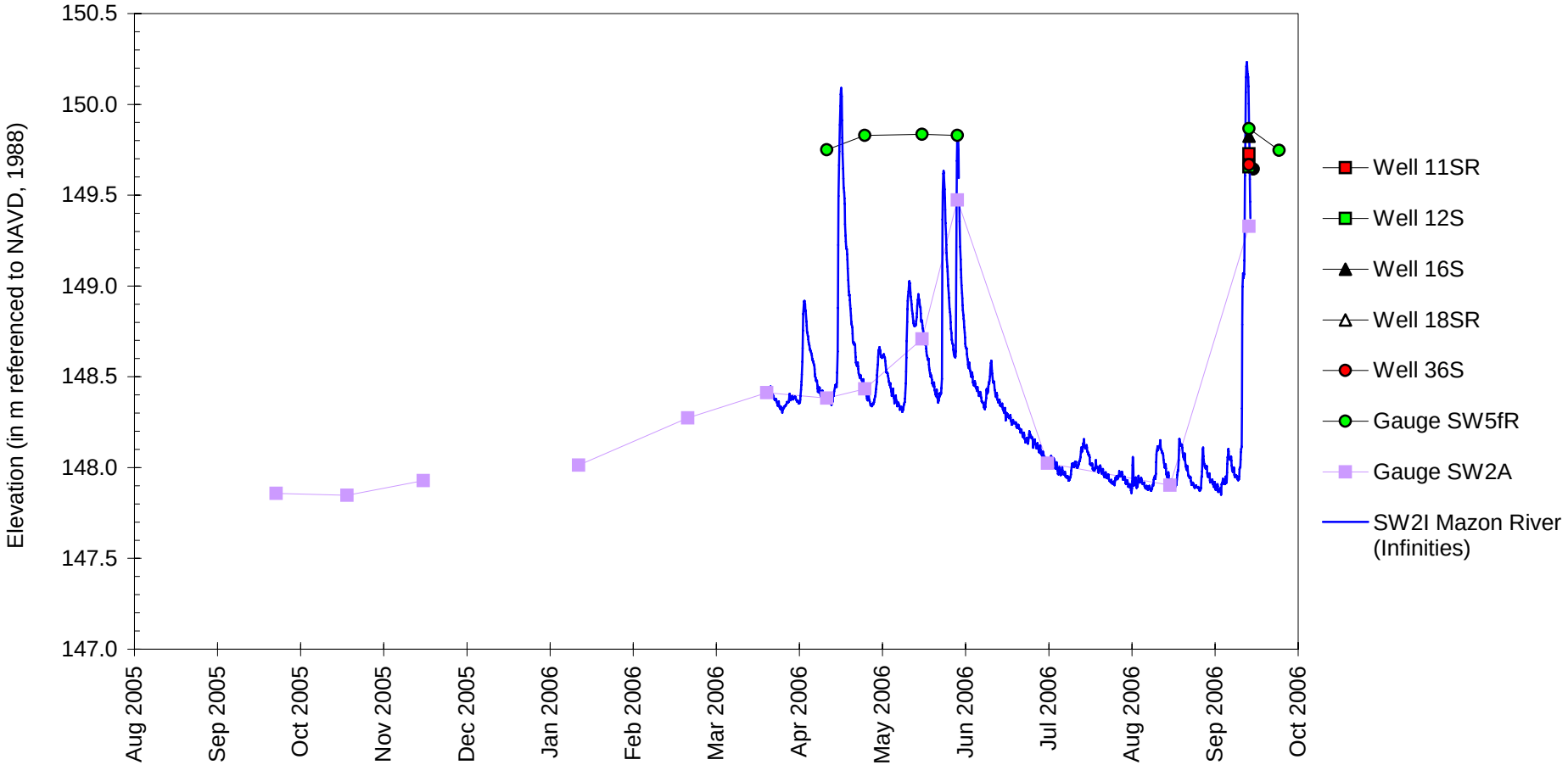
based on data collected between September 1, 2005 and September 26, 2006

Map based on USGS digital orthophotograph, Morris NE quarter quadrangle
from 4/5/1998 aerial photography (ISGS 2001)



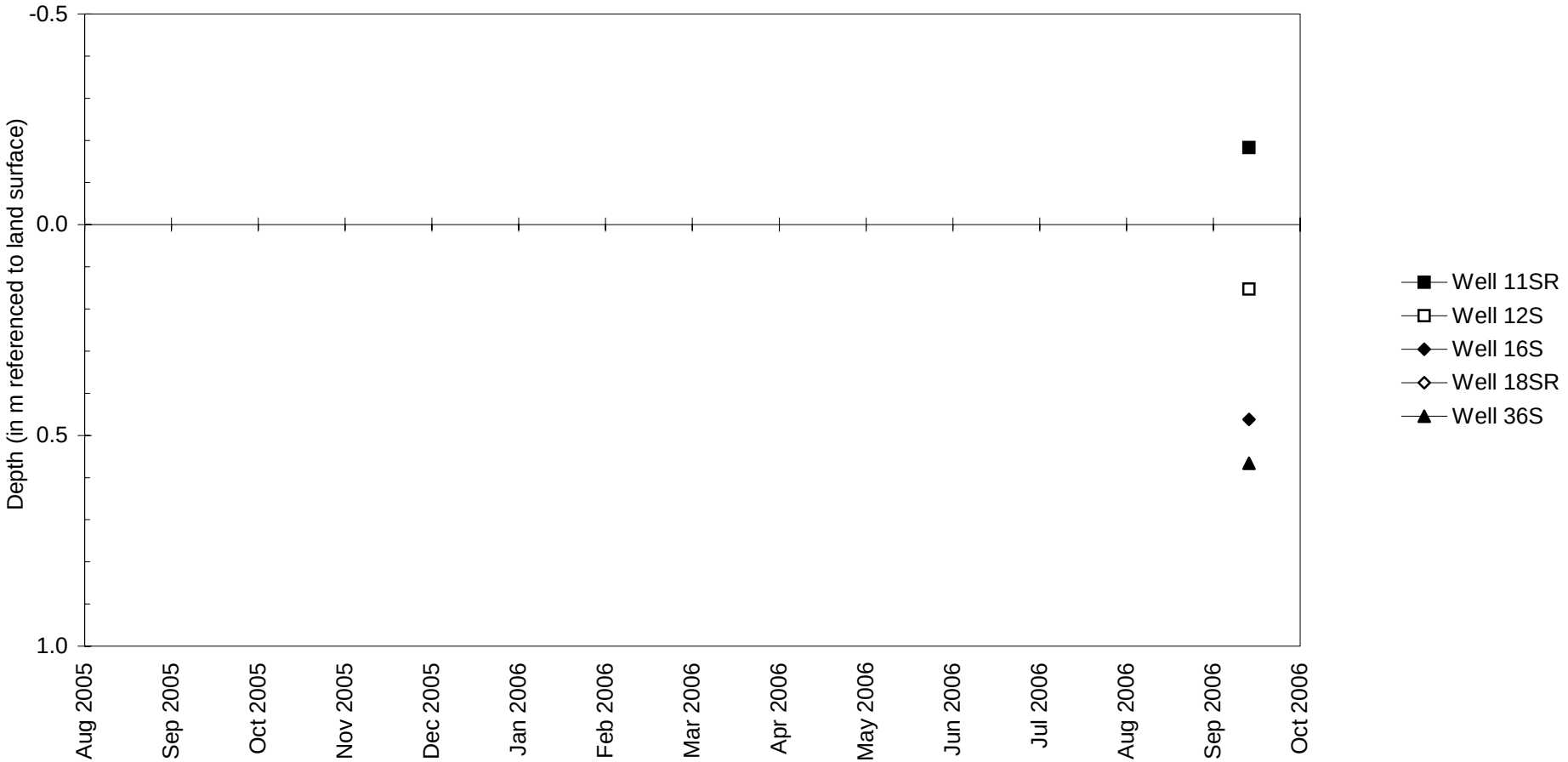
Morris, Illinois River Wetland Bank Site
September 1, 2005 to September 26, 2006

Water-Level Elevations
in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges
South of the Mazon River



Morris, Illinois River Wetland Bank Site
September 1, 2005 to September 26, 2006

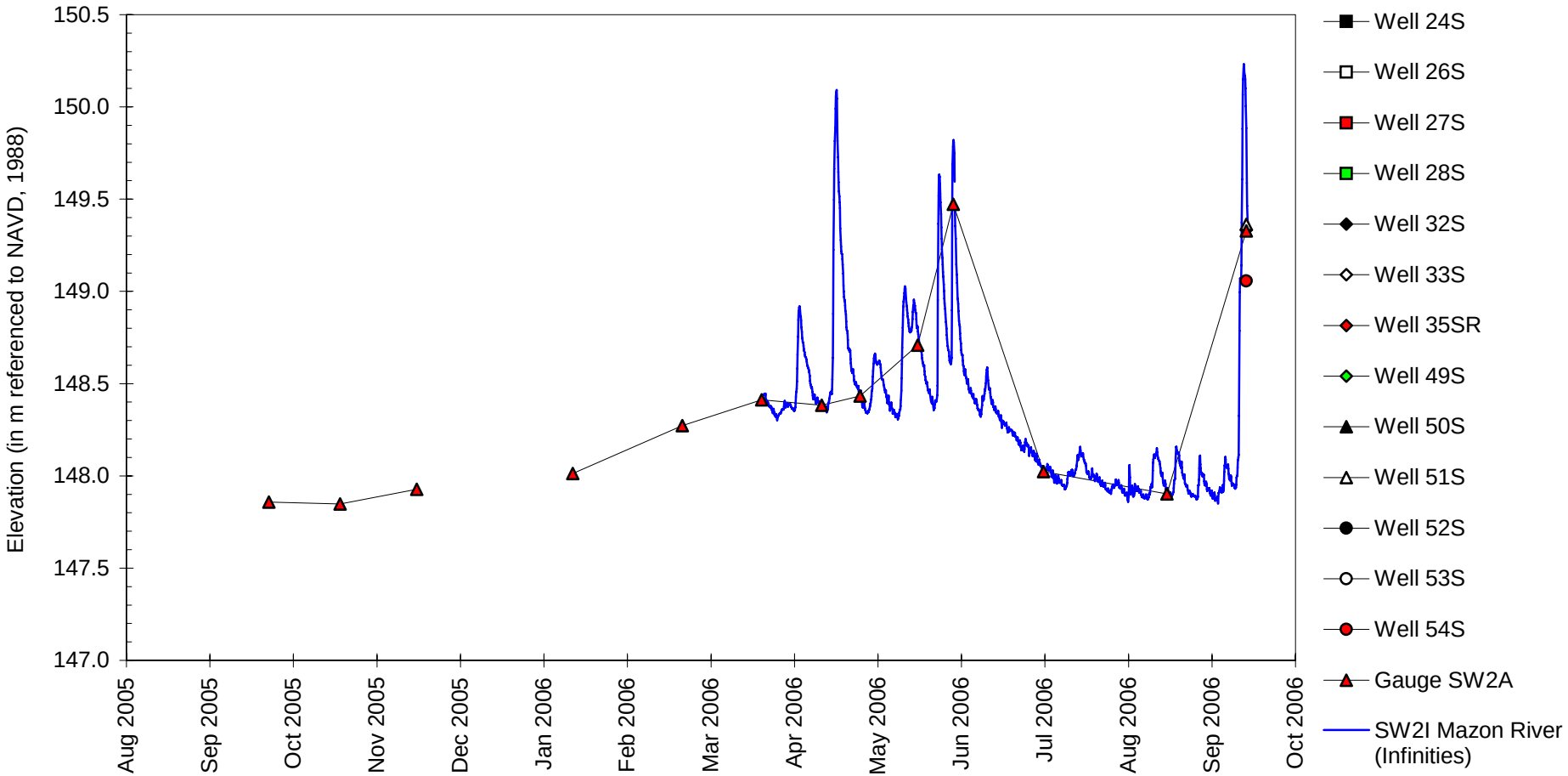
Depth to Water
in Soil-Zone Monitoring Wells
South of the Mazon River



Morris, Illinois River Wetland Bank Site

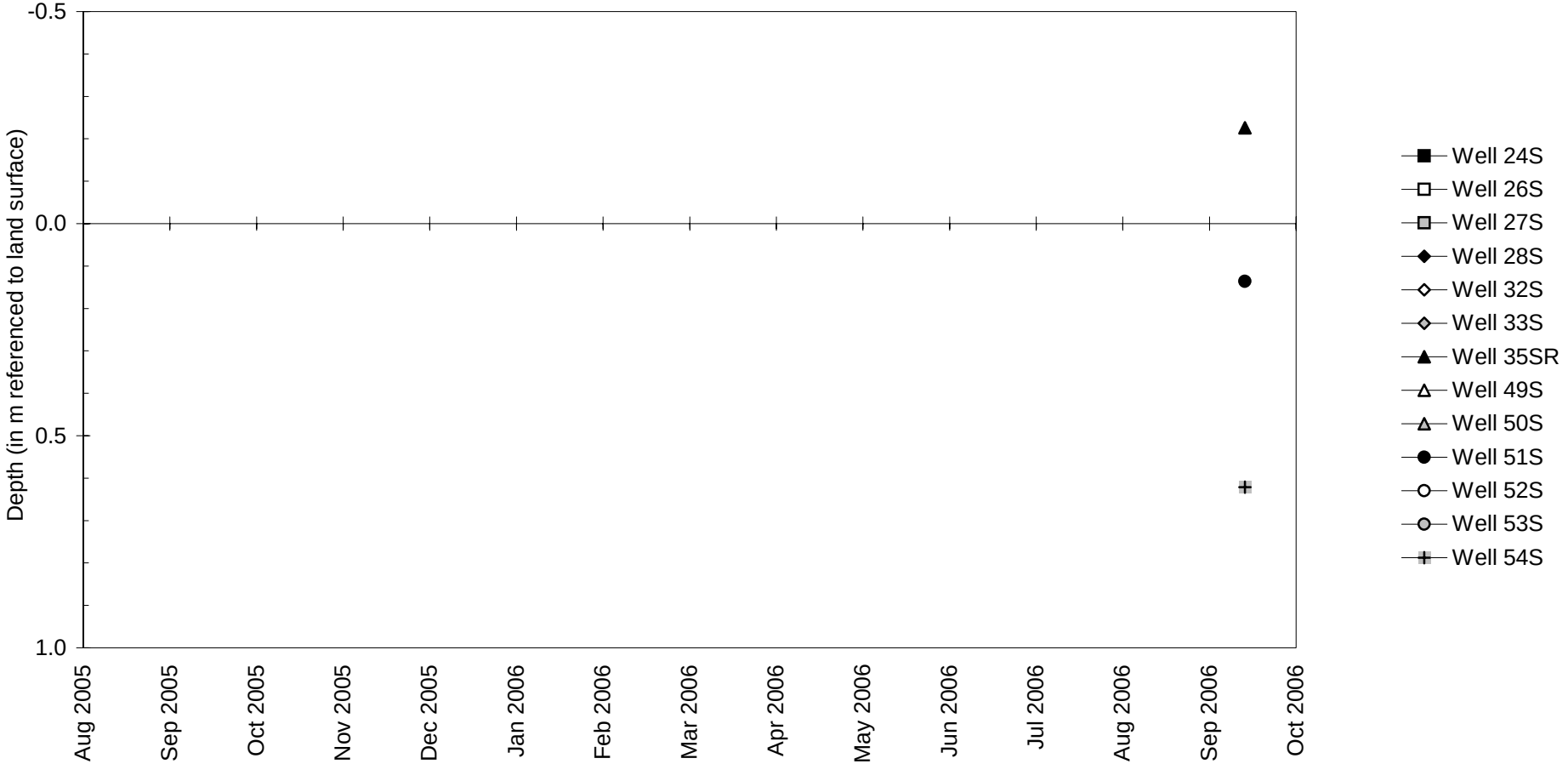
September 1, 2005 to September 26, 2006

Water-Level Elevations
in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges
North of the Mazon River



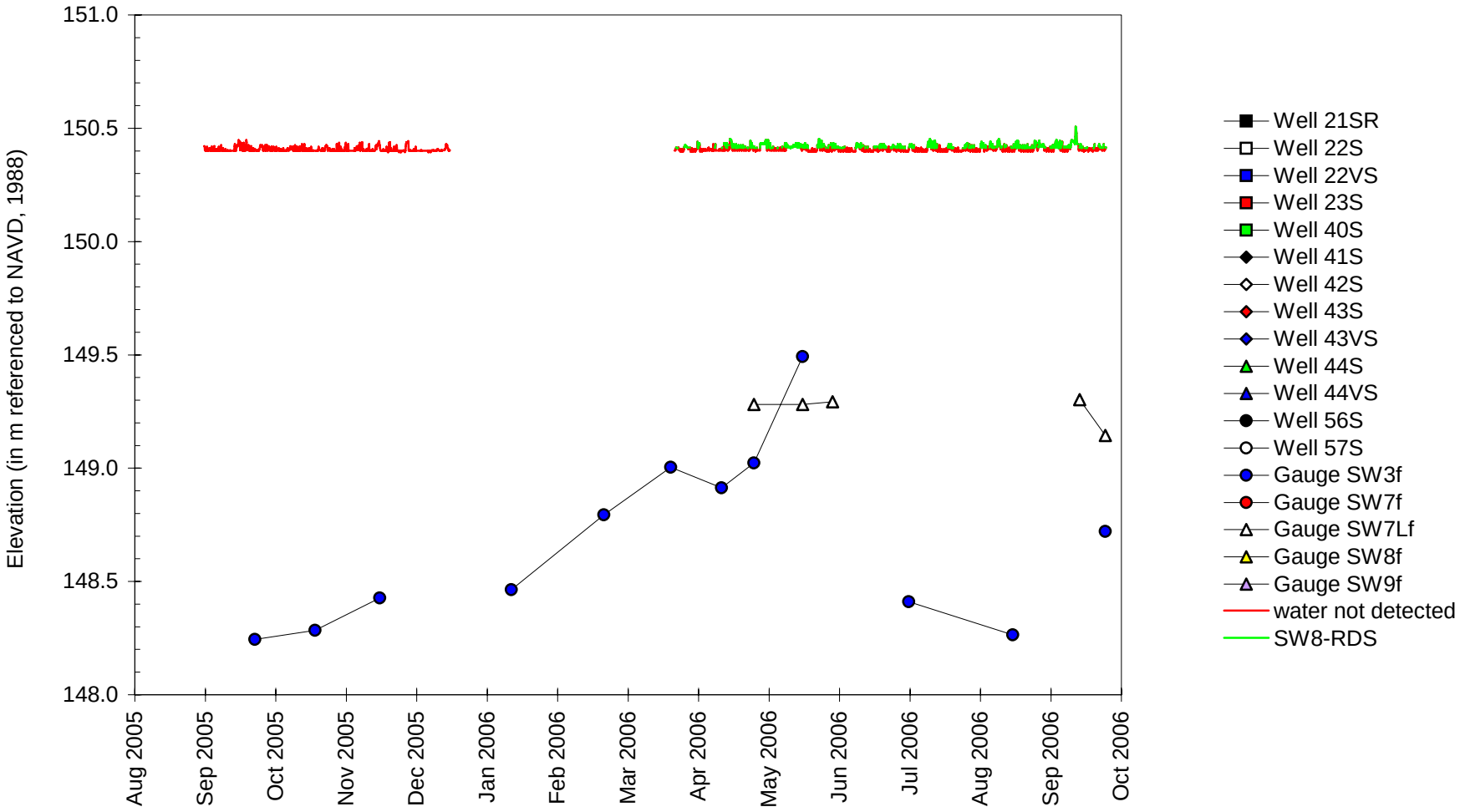
Morris, Illinois River Wetland Bank Site
September 1, 2005 to September 26, 2006

Depth to Water
in Soil-Zone Monitoring Wells
North of the Mazon River



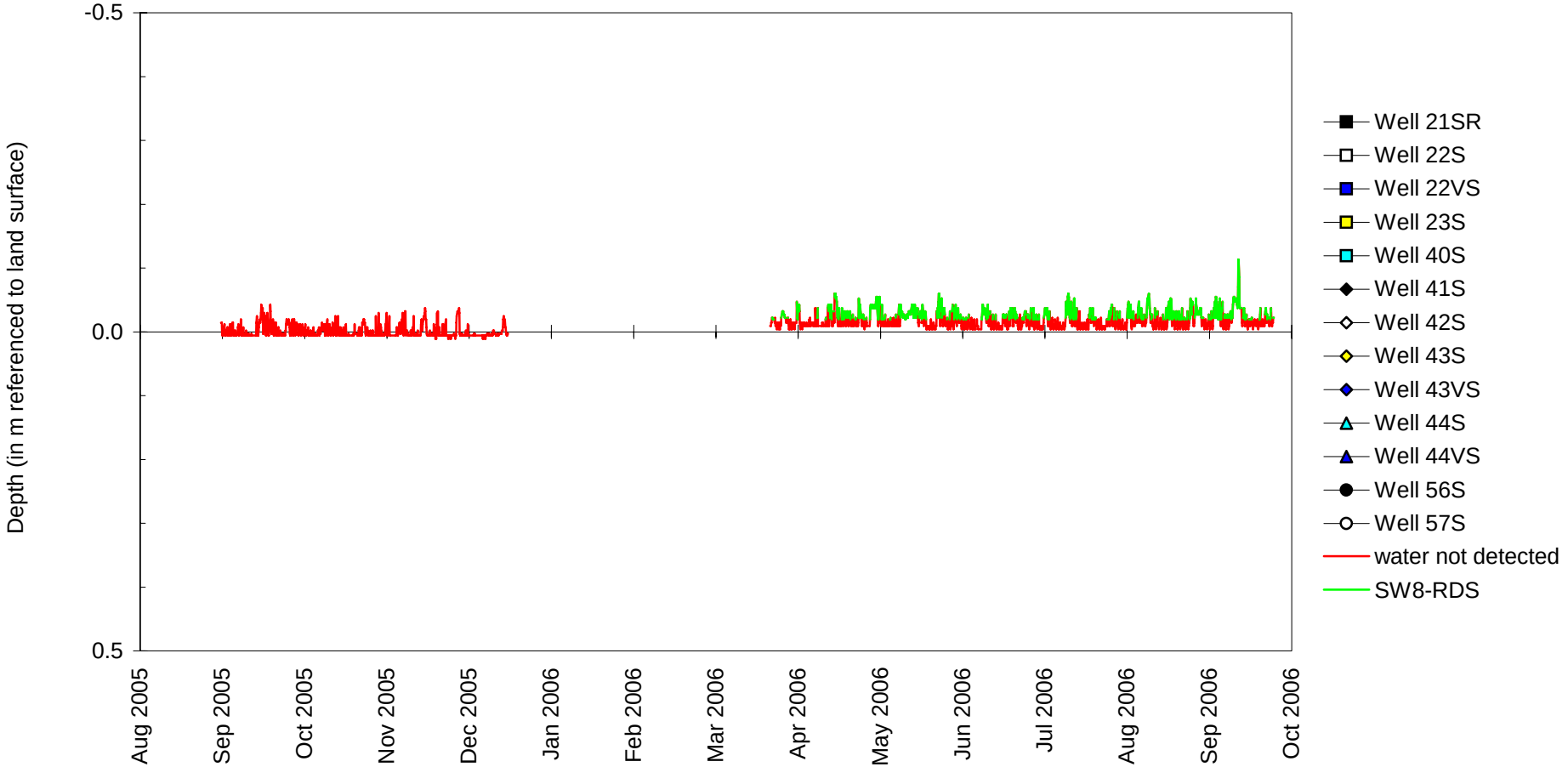
Morris, Illinois River Wetland Bank Site
September 1, 2005 to September 26, 2006

Water-Level Elevations
in Soil-Zone Monitoring Wells, Data Loggers, and Stage Gauges
in the East Field and near the Natural Slough



Morris, Illinois River Wetland Bank Site
September 1, 2005 to September 26, 2006

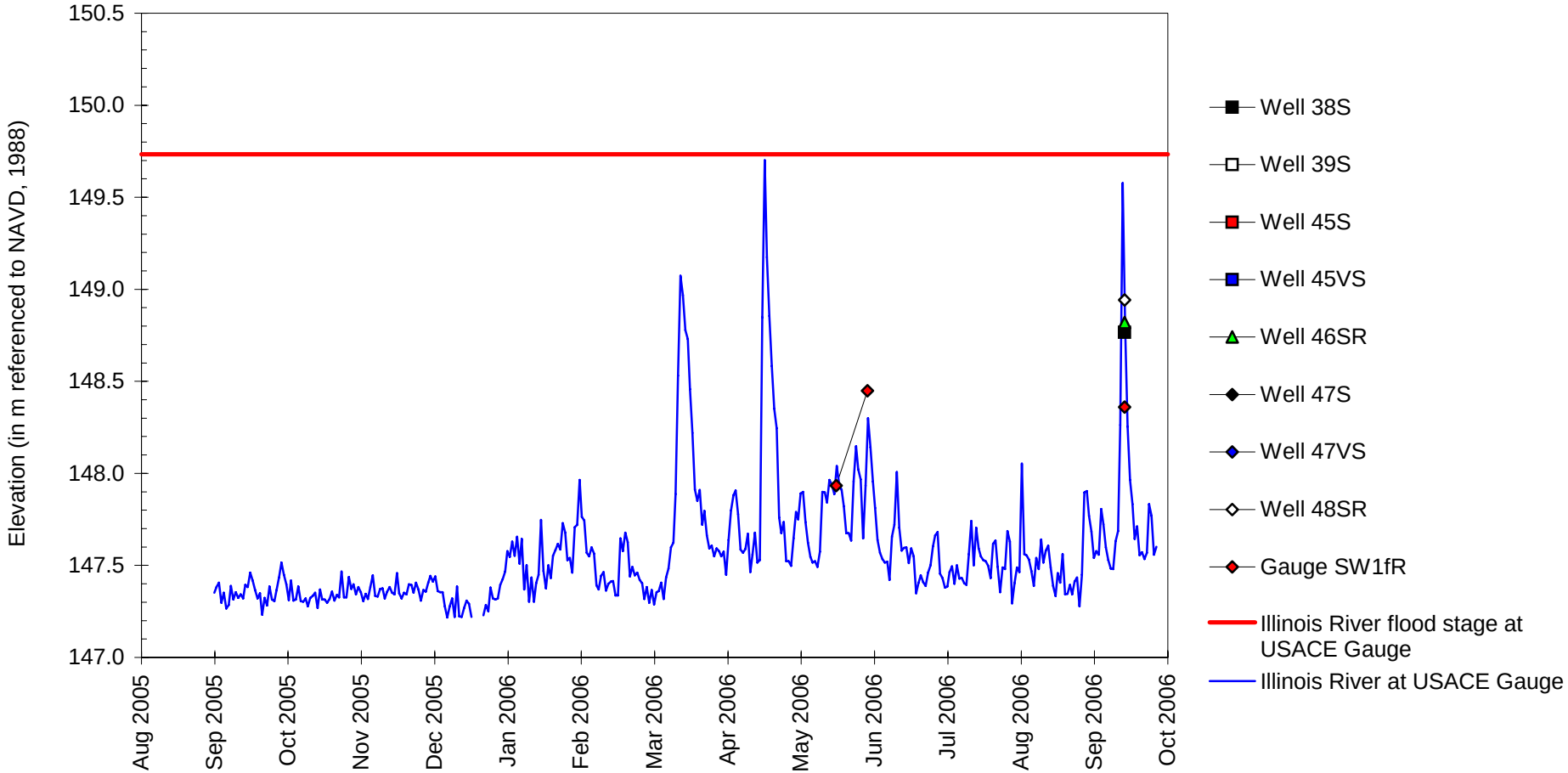
Depth to Water
in Soil-Zone Monitoring Wells and Data Loggers
in the East Field and near the Natural Slough



Morris, Illinois River Wetland Bank Site

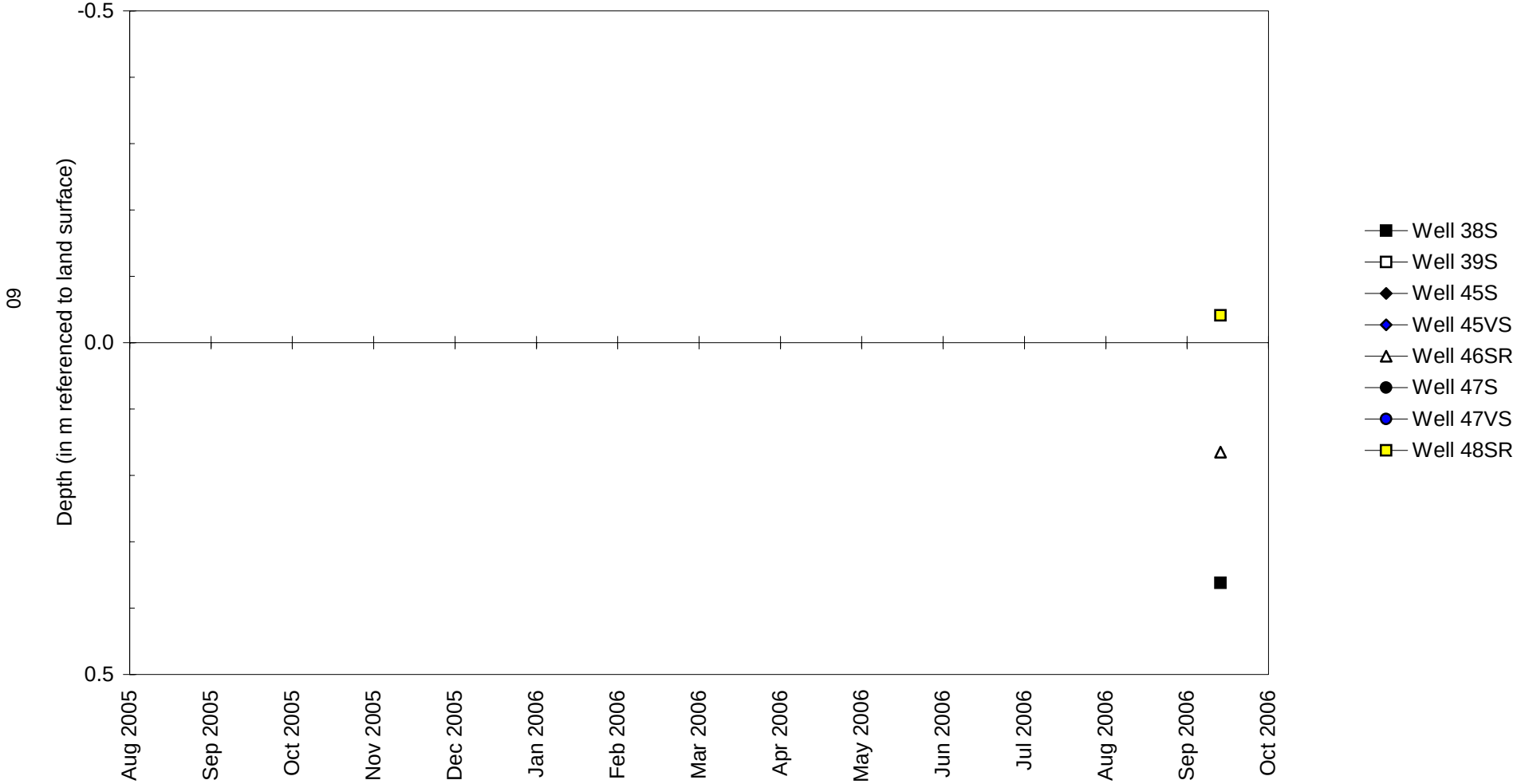
September 1, 2005 to September 26, 2006

Water-Level Elevations
in Monitoring Wells, Data Loggers, and Stage Gauges
near the Illinois River Floodplain Forest



Morris, Illinois River Wetland Bank Site
September 1, 2005 to September 26, 2006

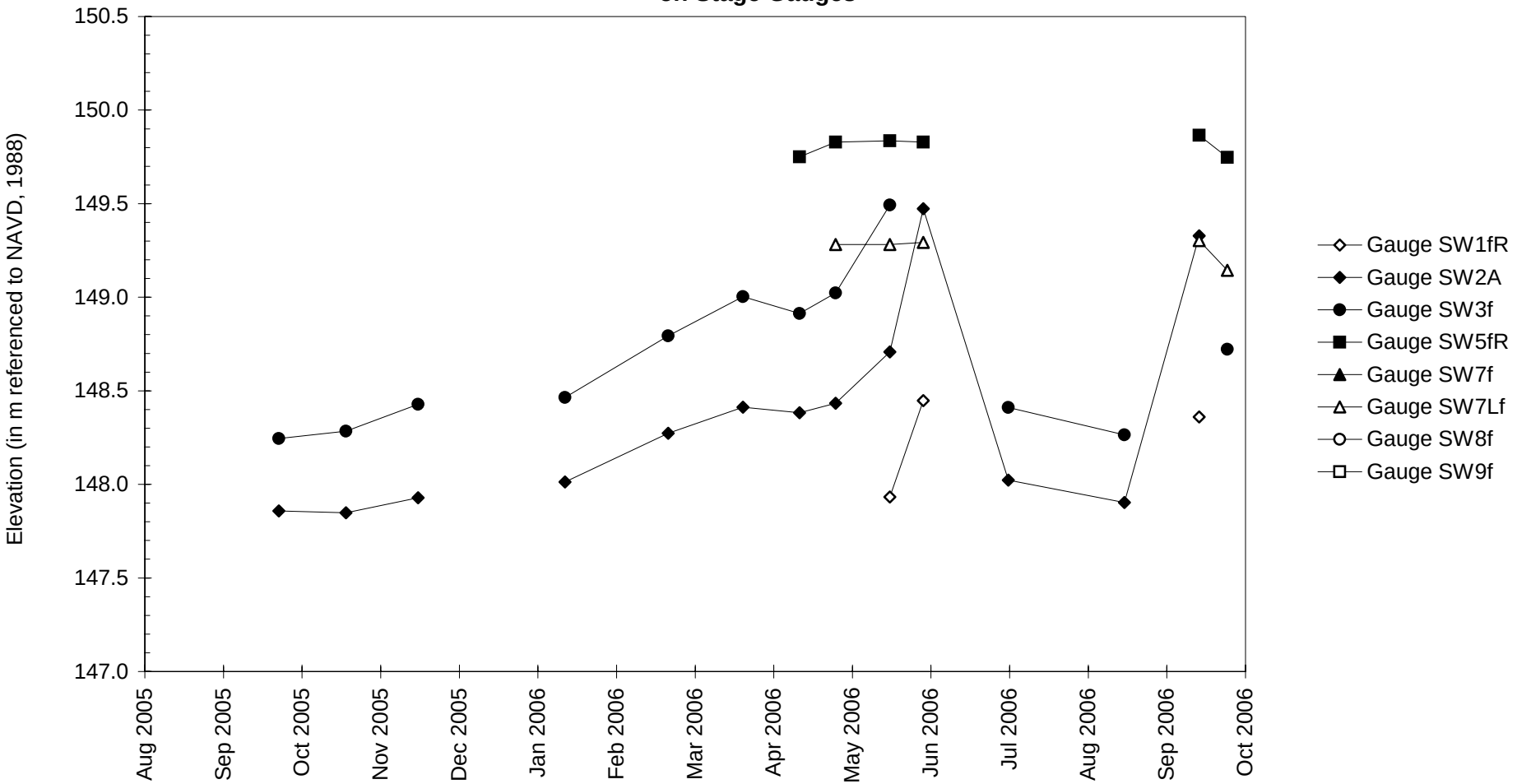
Depth to Water
in Monitoring Wells
near the Illinois River Floodplain Forest



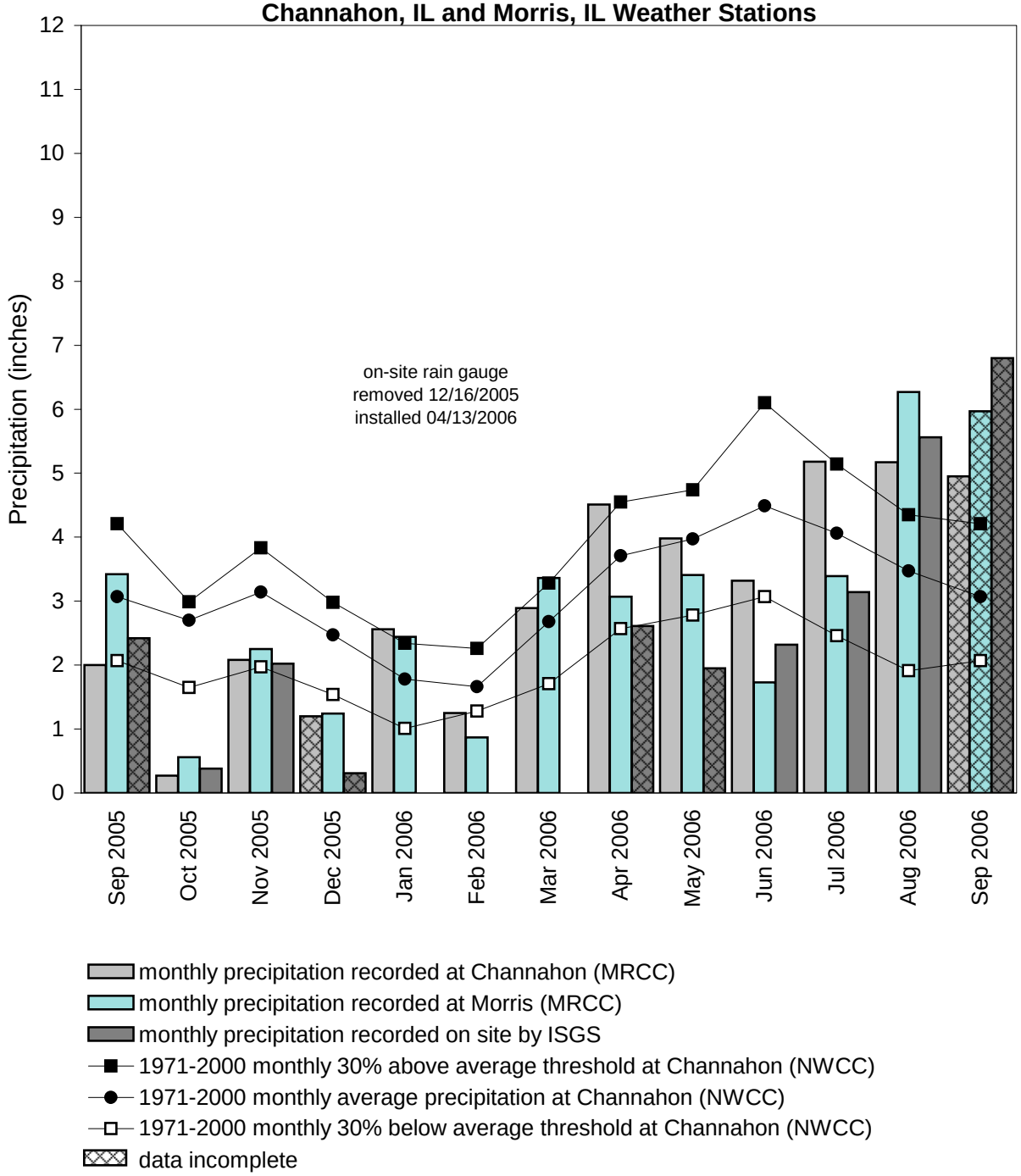
09

Morris, Illinois River Wetland Bank Site
September 1, 2005 to September 26, 2006

Water-Level Elevations on Stage Gauges



Morris, Illinois River
Potential Wetland Banking Site
September 1, 2005 through September 30, 2006
Total Monthly Precipitation Recorded On Site and at the Channahon, IL and Morris, IL Weather Stations



On-site rain gauge last downloaded on September 26, 2006
Graph last updated October 13, 2006

EDWARDS RIVER, MERCER COUNTY **ISGS #50**
WETLAND COMPENSATION SITE
FAP 310
Mercer County, near Boden, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- May 1996: ISGS submitted an Initial Site Evaluation Report to IDOT.
- Spring 1999: ISGS began post-construction monitoring.
- Fall 1999: 11 sediment traps were added to the site.
- April 2005: A berm was constructed at the northwest corner of the site by IDOT in order to increase the depth and duration of water retention on the site.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that the portion of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5%, and greater than 12.5%, of the growing season was 0.0 ha (0.0 ac) out of a total area of 1.51 ac (0.61 ha). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Aledo, Illinois, is April 11 and the season lasts 195 days; 5% of the growing season is 10 days and 12.5% of the growing season is 24 days.
- Total precipitation for the monitoring period was 30.41 inches, which was 85% of normal. Precipitation was at or above normal in September 2005, and in January, March, April, and August 2006. Total precipitation in April, May, and June was 8.72 inches, which was 72% of normal.
- The monitoring wells at the site were generally dry throughout the monitoring period. Therefore, the wetland hydrology criteria for ground water was not satisfied because the depth to ground water was generally greater than 30 cm (12 inches). Ground water at depths less than 30 cm (12 inches) was detected for brief periods in April and May by the data logger in well RDS 2, however, the longest period was only 6 days, which is only 3% of the growing season.
- Surface water levels measured by RDS 1 reveal that inundation did not occur on the site during the monitoring period. In addition, river stage measured by the Infinities data logger reveal that Edwards River did not get high enough during the monitoring period to flood the site.

ADDITIONAL INFORMATION

- Edwards River did not exceed the elevation necessary to flood the site, therefore, no riverine sediments were deposited on the site during the monitoring period.

- A berm was constructed in April 2005 in order to increase the depth and duration of surface-water retention on the site, and thereby increase the area satisfying wetland hydrology criteria. However, the lack of a flood event on Edwards River during the 2006 growing season made it impossible to determine the effect of the berm on the hydrology of the site.

PLANNED FUTURE ACTIVITIES

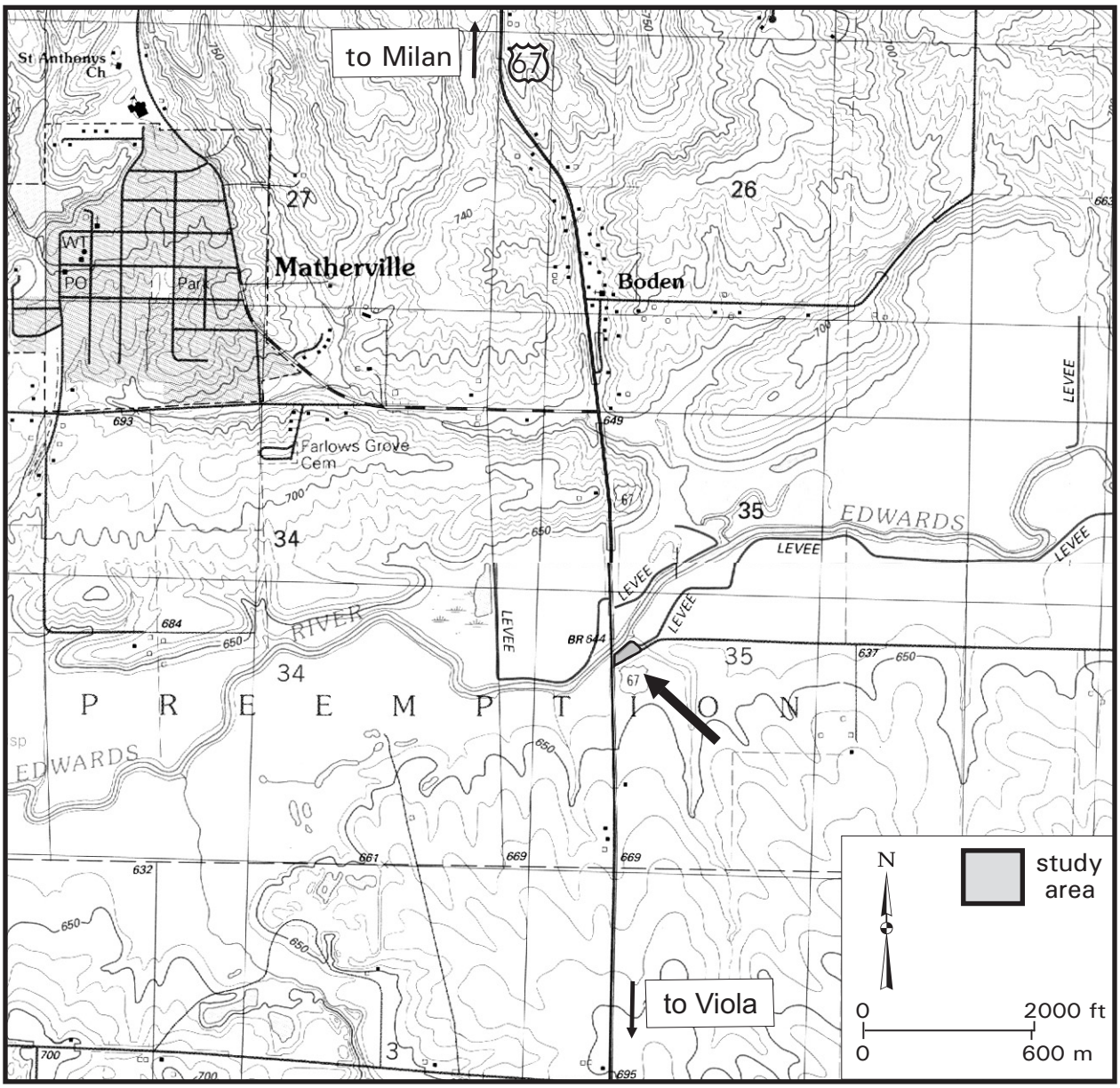
- Monitoring of hydrology and sediment deposition will continue until no longer required by IDOT.

Edwards River, Mercer County Wetland Compensation Site

(FAP 310)

General Study Area and Vicinity

from the USGS Topographic Series, Viola, IL (USGS 1992) and
Matherville, IL (USGS 1991) 7.5-minute Quadrangles
contour interval is 10 ft



Edwards River, Mercer County Wetland Compensation Site

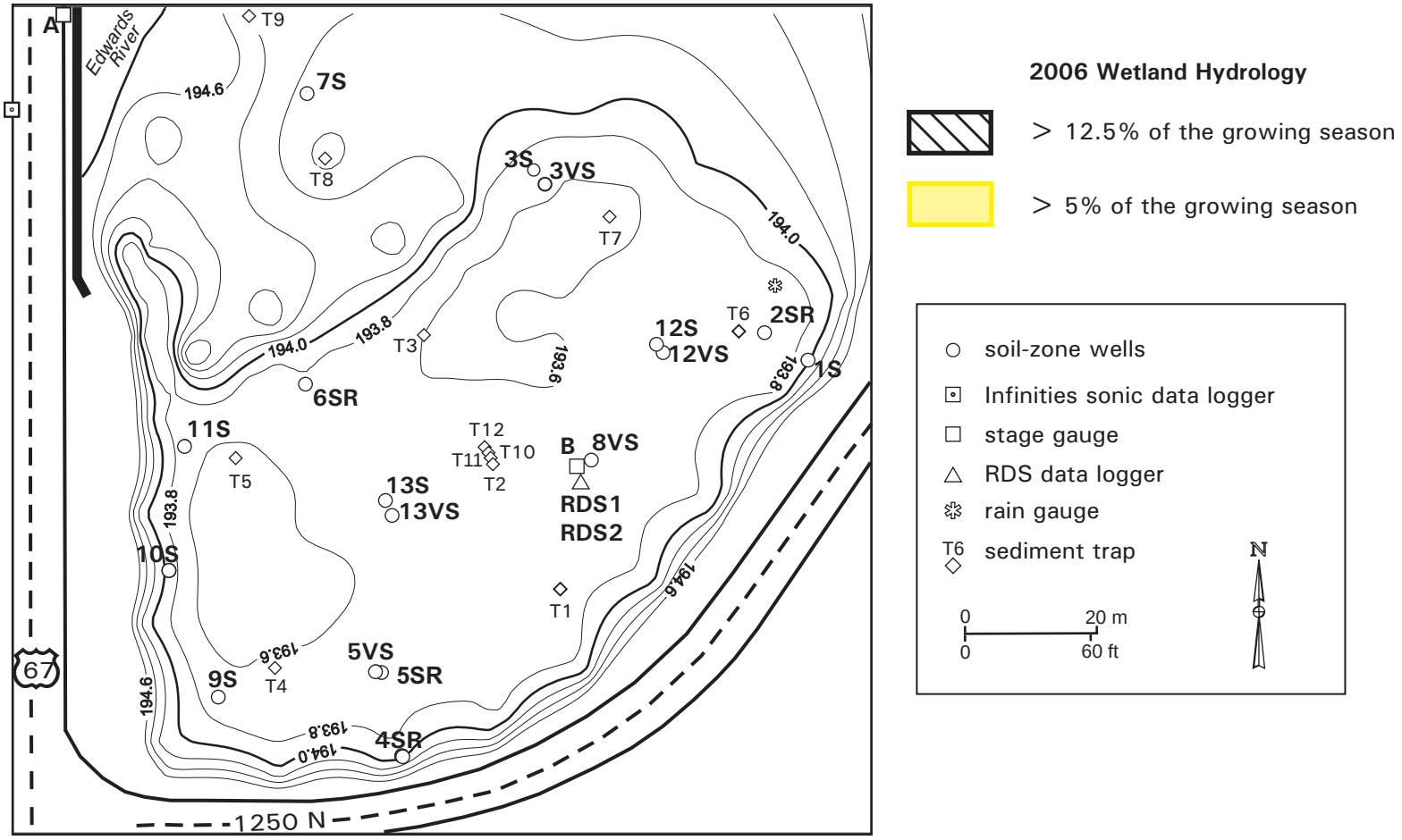
(FAP 310)

Estimated Areal Extent of 2006 Wetland Hydrology

based on data collected between September 1, 2005 and September 1, 2006

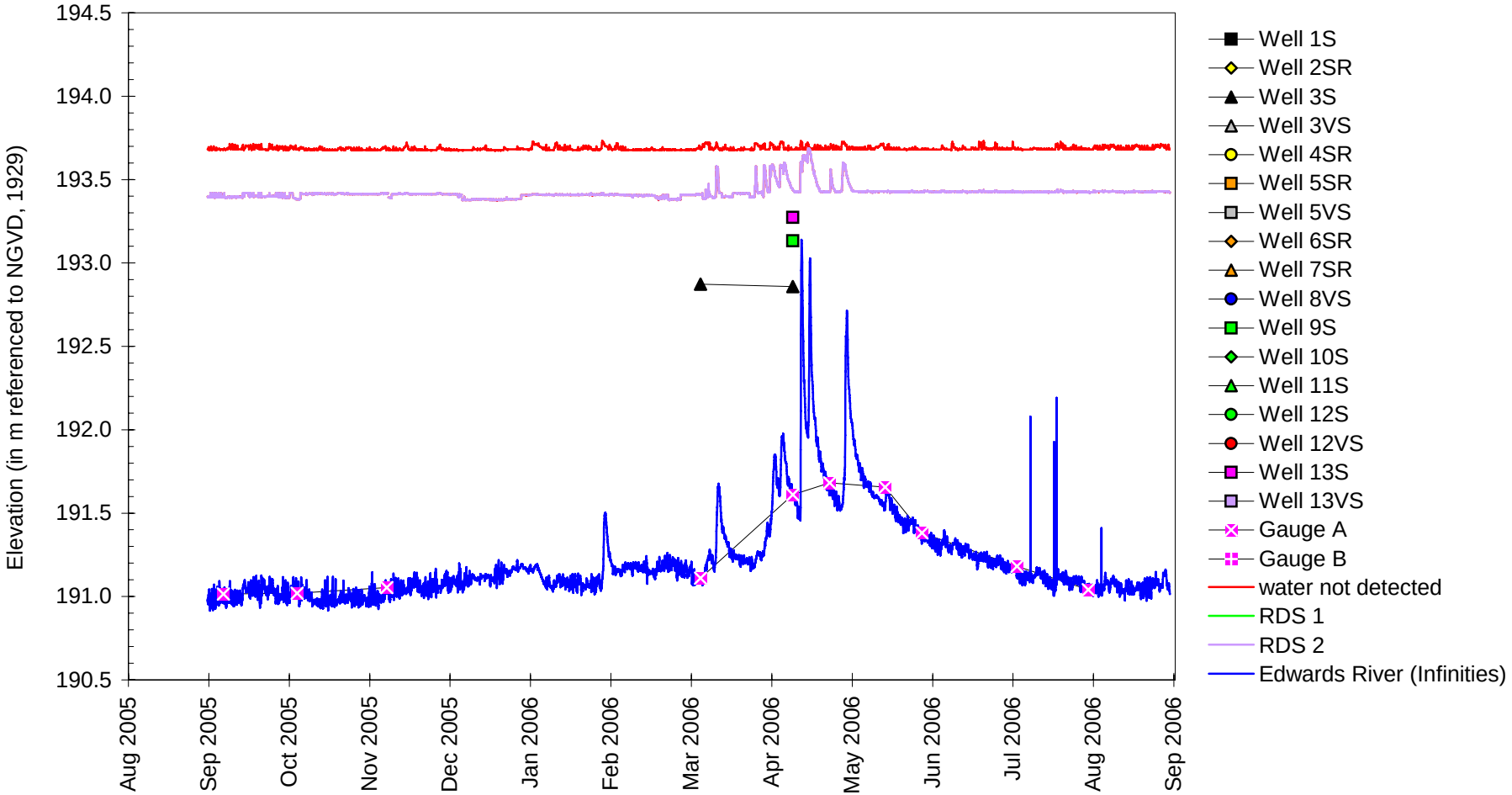
Map based on 2002 ISGS elevation survey referenced to NGVD, 1929

contour interval is 0.2 meters

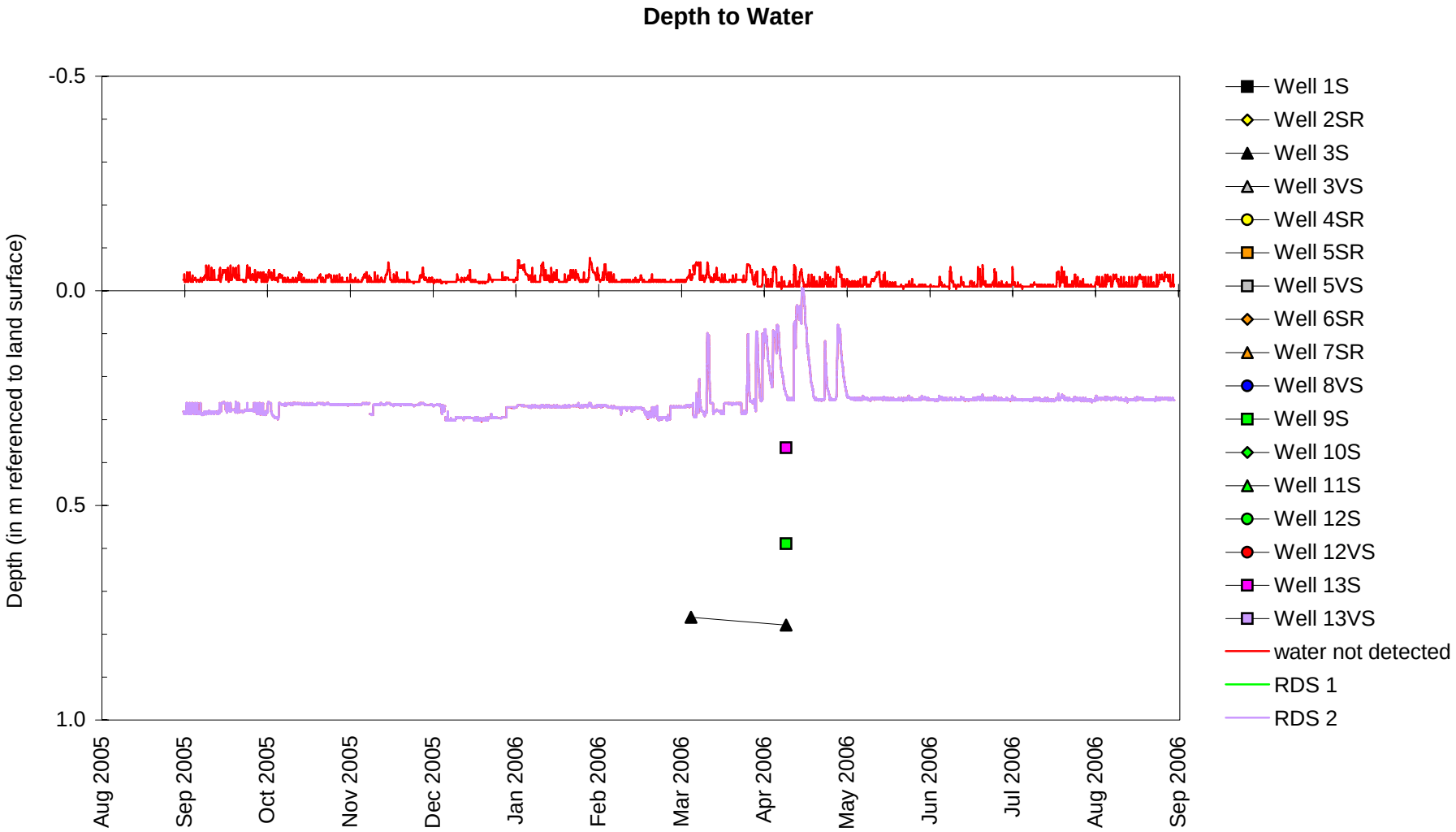


Edwards River, Mercer County Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations

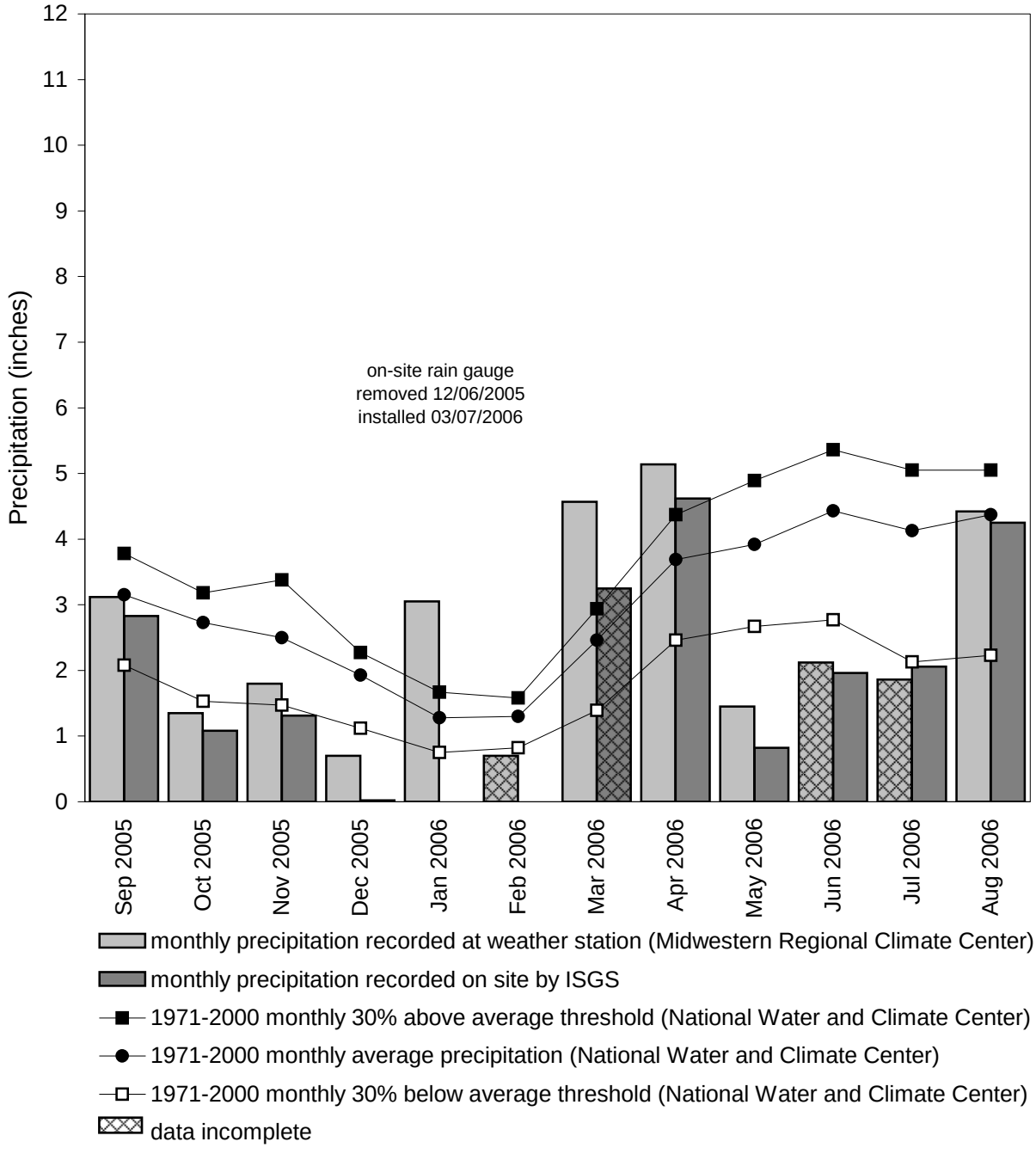


Edwards River, Mercer County Wetland Compensation Site
September 1, 2005 to September 1, 2006



Edwards River, Mercer County
Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Aledo, IL Weather Station



Graph last updated October 13, 2006

FORMER LUEHMANN PROPERTY, NEW RIVER CROSSING **ISGS #51**
POTENTIAL WETLAND COMPENSATION SITE
FAP 999
Madison County, near Stallings, Illinois
Primary Project Manager: Bonnie J. R. Sperling
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- February 2000: The ISGS was tasked to perform a Level II hydrogeologic assessment of the site.

- May 2003: A Level II hydrogeological characterization report was submitted to IDOT (ISGS Open-File Series 2003-09).

- June 2003: IDOT requested the suspension of ground-water monitoring. The collection of data from surface-water instruments is ongoing.

SUMMARY OF 2006 EVENTS

The total area of the Former Luehmann Property Potential Wetland Compensation Site is 27.5 ha (68 ac). Because ground-water monitoring was suspended at this site, an estimate of the area satisfying the criteria for wetland hydrology was not prepared for this report.

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Belleville, Illinois, is April 6 and the season lasts 199 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Precipitation at the nearby Edwardsville weather station during the monitoring period was 71% of normal. Below-normal precipitation was reported through most of the monitoring period. Normal to above-normal precipitation was only reported during four months, September and November 2005, and January and March 2006.

- Measurements in the Cahokia Canal indicate that the water level exceeded 126.8 m (416 ft) on several occasions during the growing season, on April 6 and July 21, 2006. This is the suggested elevation of an intake culvert described in the Level II Report (ISGS Open-File Series 2003–09).

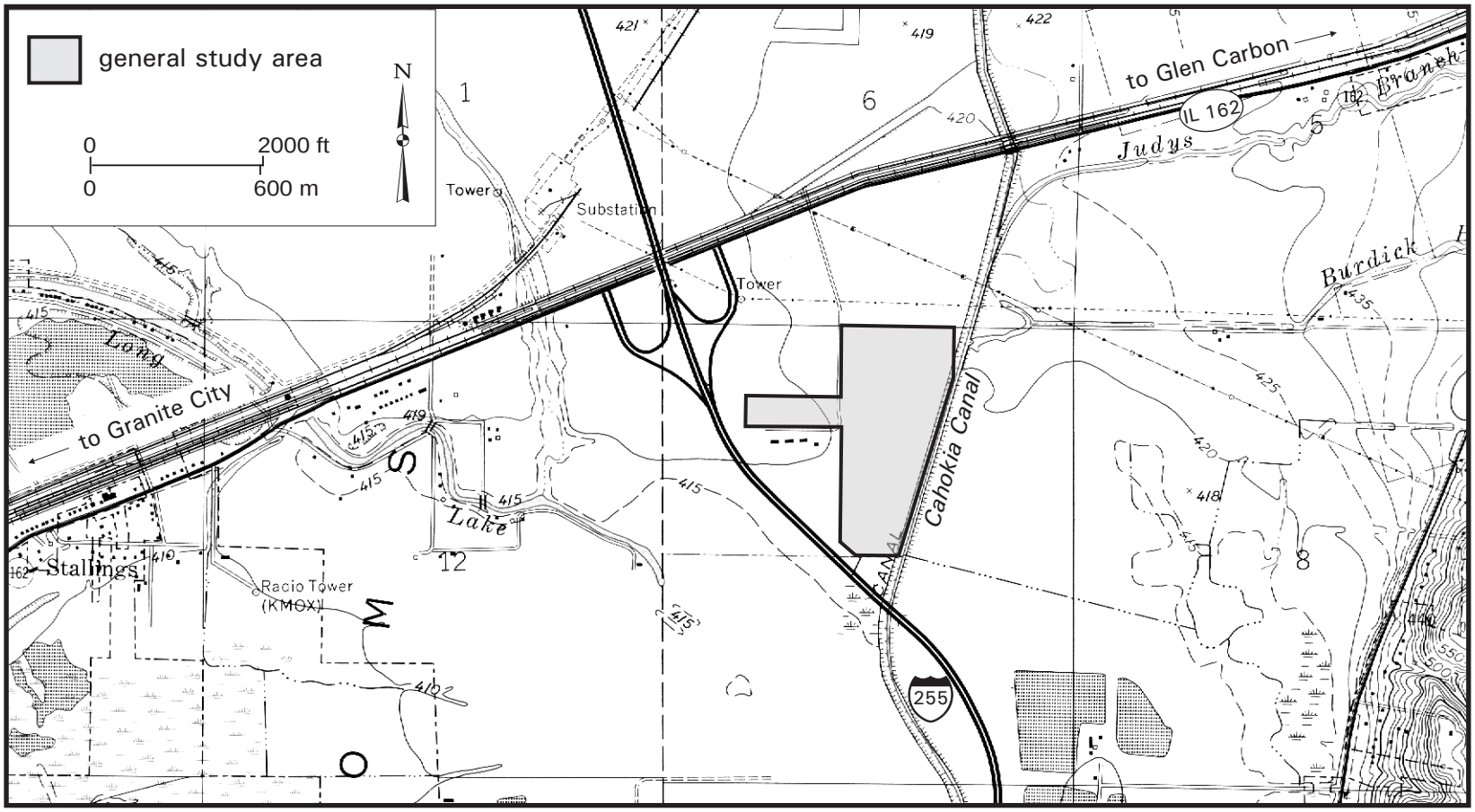
PLANNED FUTURE ACTIVITIES

- Collection of surface-water data will continue at this site until no longer required by IDOT.

Former Luehmann Property, New River Crossing Potential Wetland Compensation Site (FAP 999)

General Study Area and Vicinity

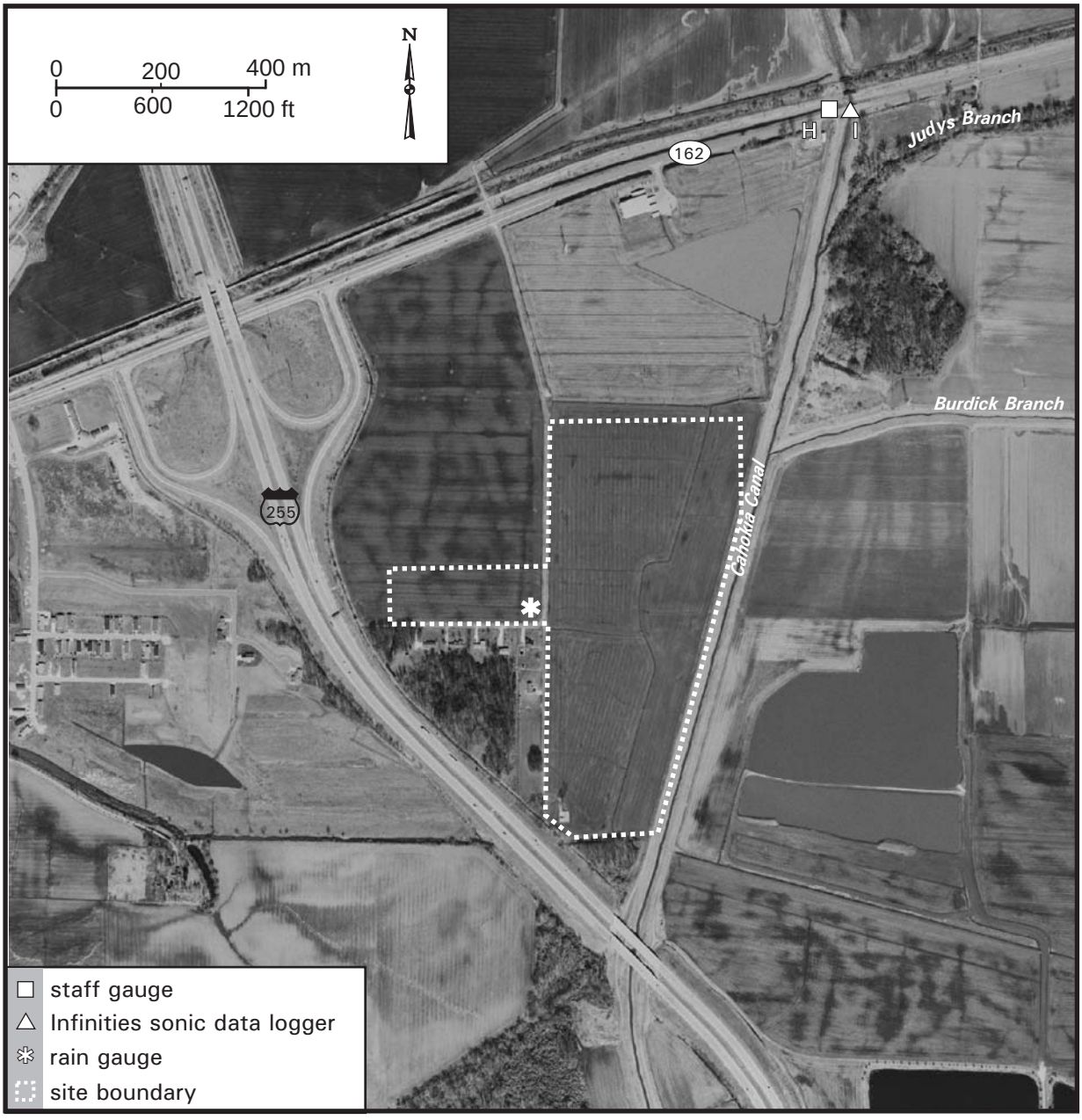
from the USGS Topographic Series, Monks Mound, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 10 feet



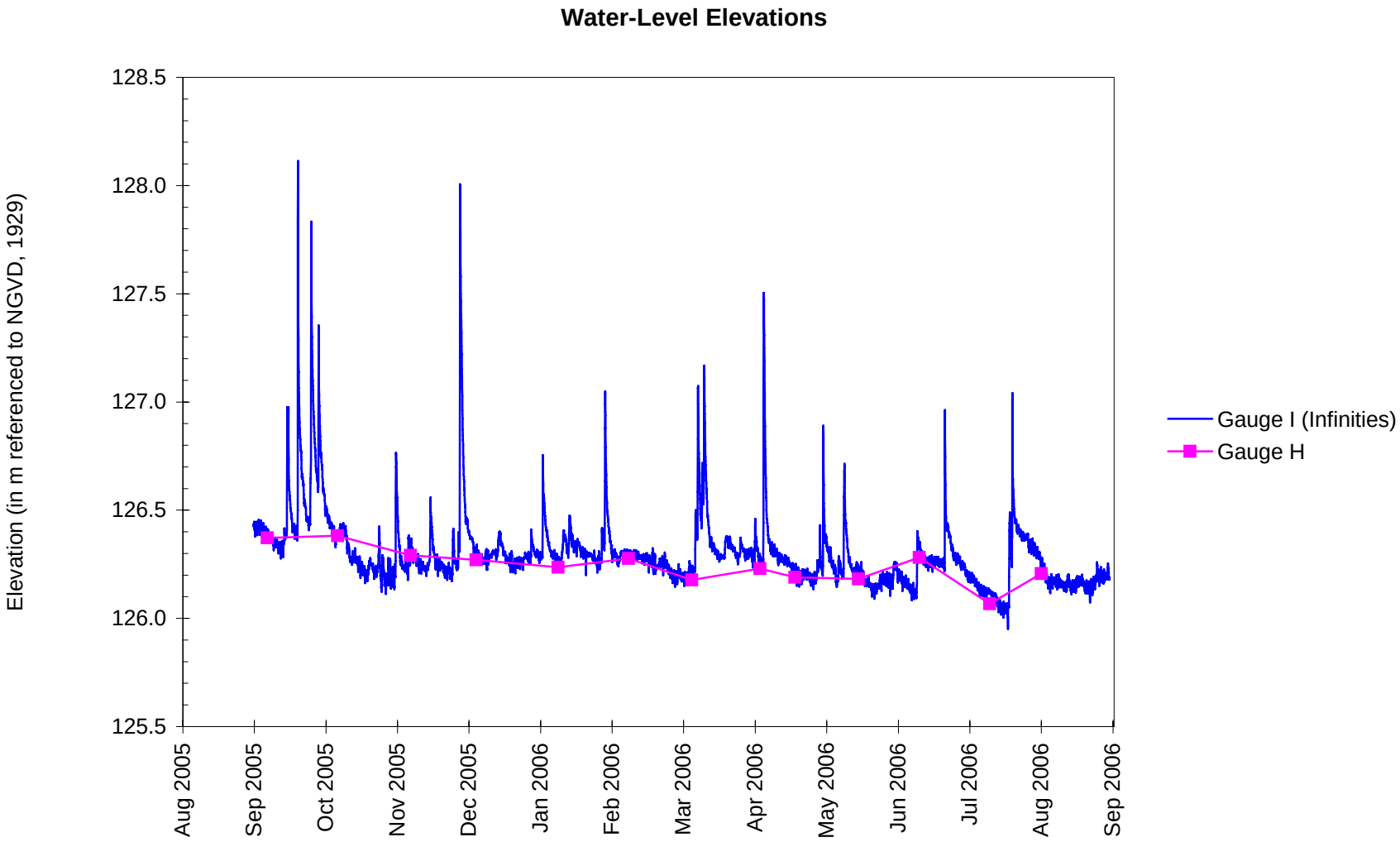
Former Luehmann Property, New River Crossing
Potential Wetland Compensation Site
(FAP 999)

Locations of ISGS Monitoring Instruments

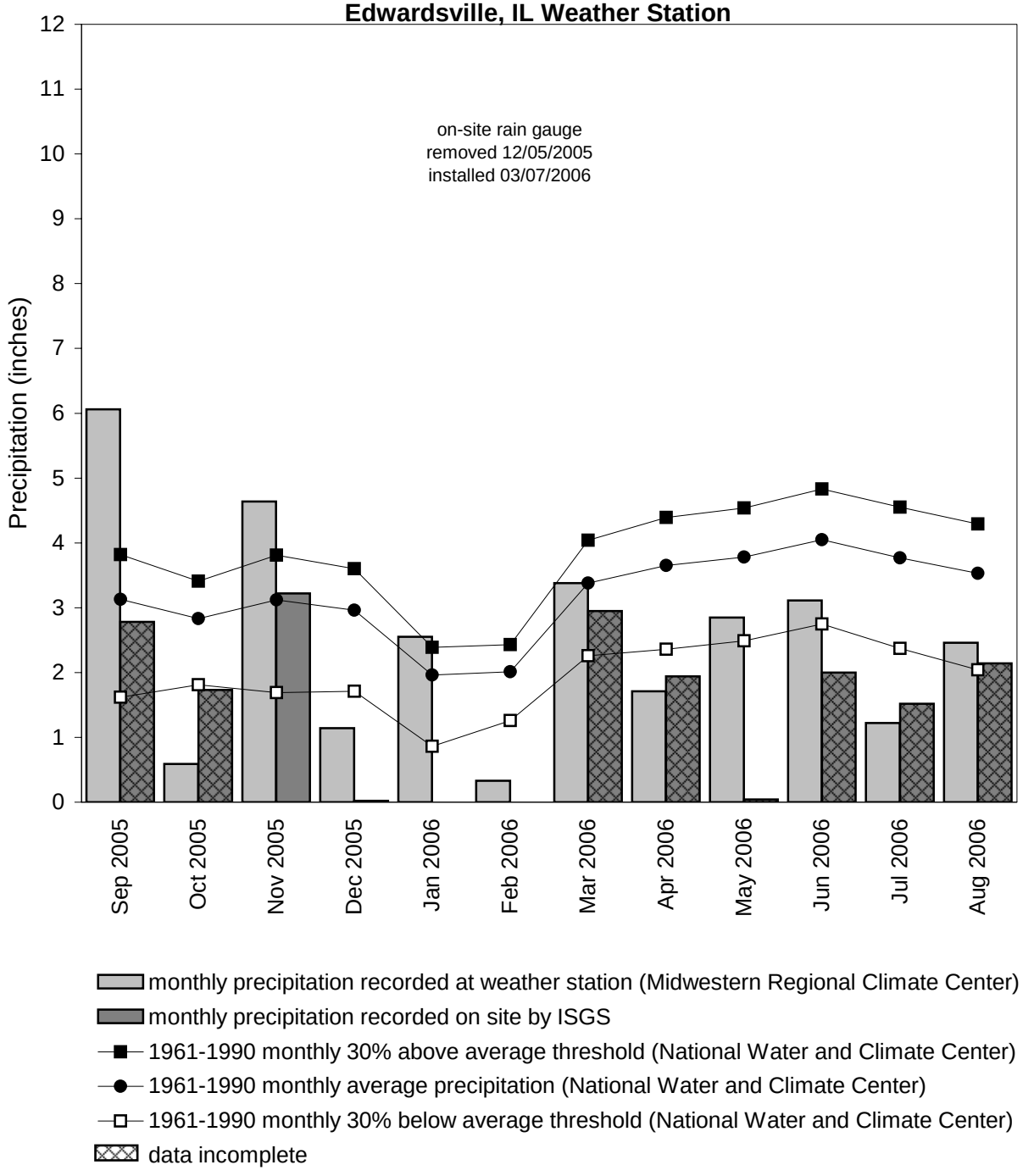
Map based on USGS digital orthophotograph, Monks Mound NE quarter quadrangle
produced from 2005 aerial photography (ISGS 2006)



Former Luehmann Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006



Former Luehmann Property, New River Crossing
Potential Wetland Compensation Site
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Edwardsville, IL Weather Station



Graph last updated October 13, 2006

FORMER WESSEL PROPERTY **ISGS #52**
LA GRANGE WETLAND BANK SITE
Sequence #9579
Brown County, near La Grange, Illinois
Primary Project Manager: Keith W. Carr
Secondary Project Manager: Geoffrey E. Pociask

SITE HISTORY

- February 2000: ISGS was tasked by IDOT to conduct a Level II hydrogeologic assessment of the site, and began on-site activities in the Spring of 2000 with the installation of surface-water monitoring equipment and monitoring wells. Additional instruments have been added annually.

- August 2002: IDOT tasked ISGS and INHS to prepare a draft wetland banking instrument, which was submitted to IDOT in January 2003.

- January 2005: A Level II report on the site was submitted to IDOT on January 7, 2005 (ISGS Open-File Series 2005–2).

- Fall and Winter 2005: Extensive earthworks were undertaken by IDOT, including filling and plugging of several ditches, re-shaping of the east levee, construction of a raised access road, and the excavation of a large basin in the north-central area of the site. ISGS and IDOT personnel also completed a topographic survey of the dry basin of Big Lake.

- Spring 2006: Two large drainage tiles were located and removed by IDOT. A partial repair of the south levee breach was also completed by an adjacent landowner.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that the total area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006 was 34.3 ha (84.7 ac) out of a total site area of 660 ha (1645 ac). A similar acreage of 34.2 ha (84.4 ac) also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Rushville, Illinois is April 6 and the season lasts 208 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.

- Total precipitation for the monitoring period was 72% of normal. During the four month period from December 2005 to March 2006, precipitation was 86% of normal, leading to slightly drier than typical conditions entering the growing season. In the critical April to July period, however, precipitation dropped off sharply to only 50% of normal. This area of the state and the Illinois River Basin as a whole are undergoing a persistent drought which began in 2005. According to data from the National Drought Mitigation Center, conditions at the site and/or within the basin of the Illinois River have ranged from D3 (extreme drought) to D0 (abnormally dry) between January 3 and May 30 of 2006 (National Drought Mitigation Center 2006).

- Of the 36 soil-zone wells on site, only well 21S satisfied wetland hydrology criteria for greater than 5% of the growing season. None of the wells satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- Three stations equipped with staff gauges or surface-water data loggers showed surface-water inundation for a period sufficient to satisfy wetland hydrology criteria. At SW3AR, combined readings from a data logger and a staff gauge indicated surface-water inundation to an elevation of at least 131.30 m (430.77 ft) for greater than 5% of the growing season, and to an elevation of at least 131.21 m (430.47 ft) for greater than 12.5% of the growing season. At SW4AR, combined readings from a data logger and a staff gauge indicated surface-water inundation to an elevation of at least 130.49 m (428.11 ft) for greater than 5% of the growing season, and to an elevation of at least 130.43 m (427.91 ft) for greater than 12.5% of the growing season. At SW14A, a staff gauge indicated surface-water inundation to an elevation of at least 131.80 m (432.41 ft) for greater than 5% of the growing season, and to an elevation of at least 131.66 m (431.95 ft) for greater than 12.5% of the growing season. Despite these periods of recorded surface-water ponding, on-site observations indicate that the logger and gauge readings only represented minimal areas within the ditches where the loggers were placed. As in previous years, these areas were not added into acreage totals for the site.

- Drawdown in the Big Lake basin rapidly left lake monitoring stations high and dry. Water levels in wells and gauges around the lake that have correlated to lake levels in past years were extrapolated to the lake basin to determine areas that were inundated. Based upon this analysis, Big Lake showed inundation to an elevation of at least 130.50 m (428.14 ft) for greater than both 5% and 12.5% of the growing season. A similar analysis of adjacent well readings coupled with on-site observations yielded an inundation level at both 5% and 12.5% of the growing season of 131.0 m (429.8 ft) in Horseshoe Lake.

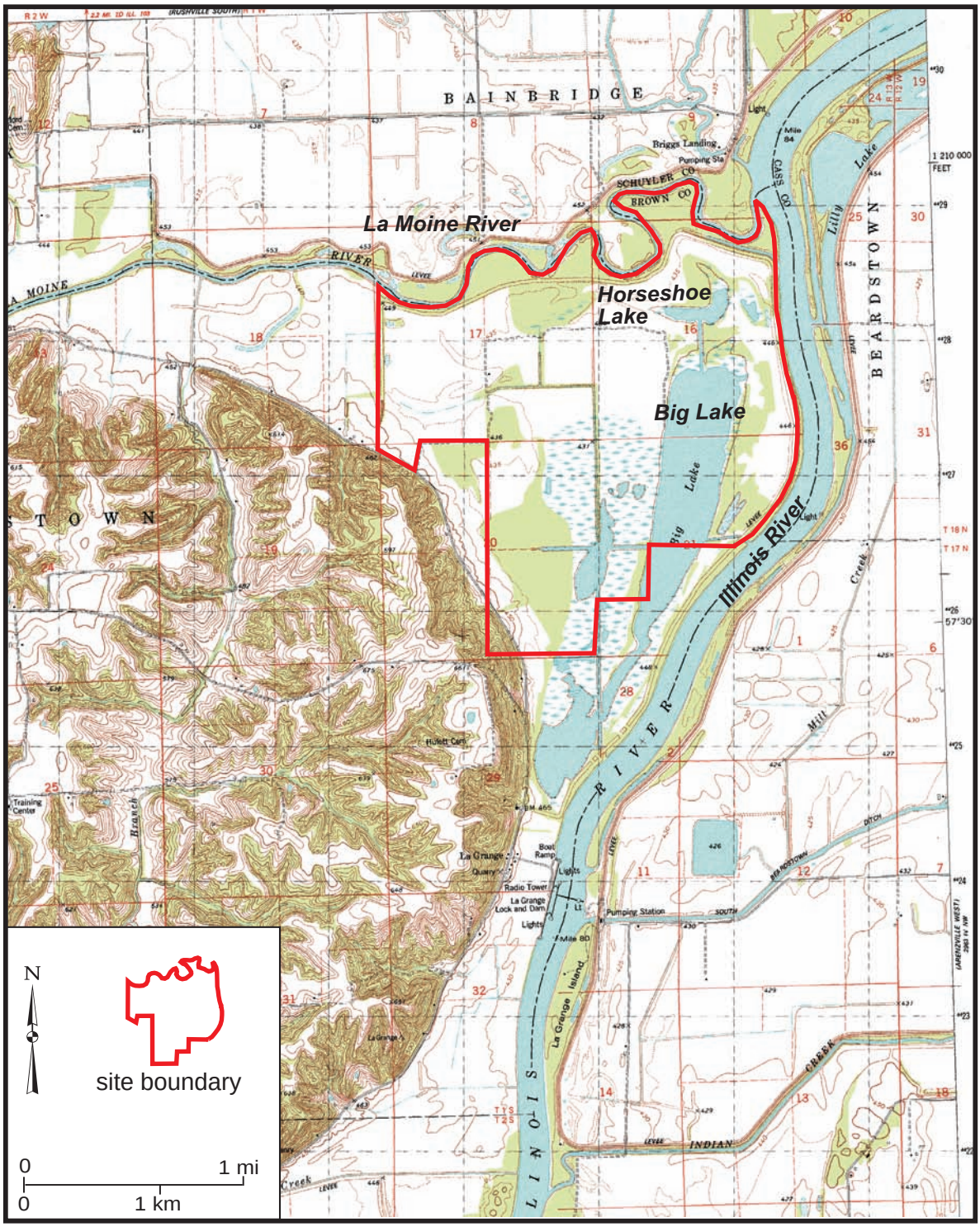
PLANNED FUTURE ACTIVITIES

- Monitoring of hydrology will continue until no longer required by IDOT.

Former Wessel Property, La Grange Wetland Bank Site

General Study Area and Vicinity

from the USGS Topographic Series, Cooperstown, IL 7.5-minute Quadrangle (USGS 1980)
contour interval is 10 feet



Former Wessel Property, La Grange Wetland Bank Site

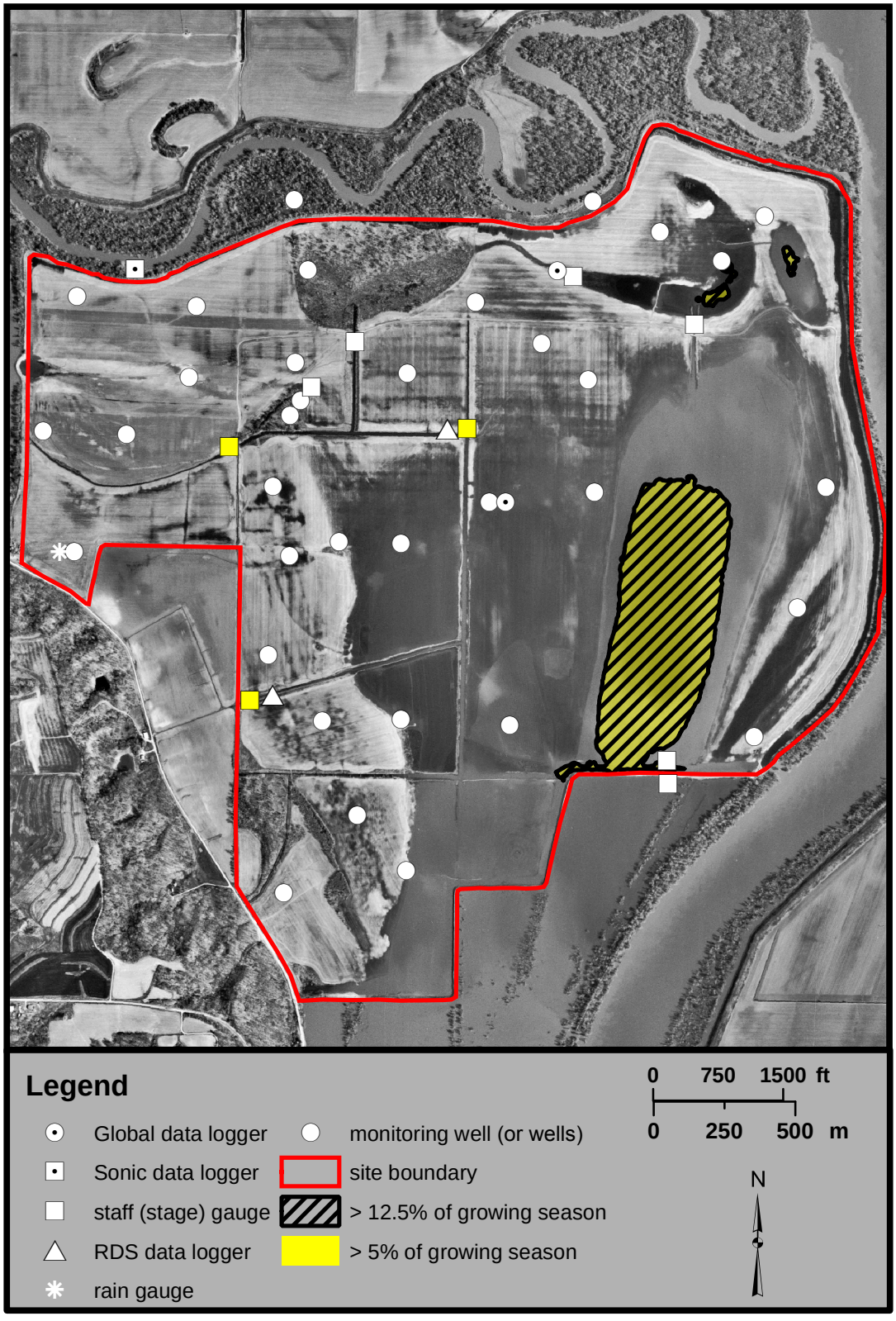
Locations of ISGS Monitoring Equipment - 2006

Map based on USGS digital orthophotograph, Cooperstown NE quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2002)

Former Wessel Property, La Grange Wetland Bank Site

Estimated Areal Extent of 2006 Wetland Hydrology

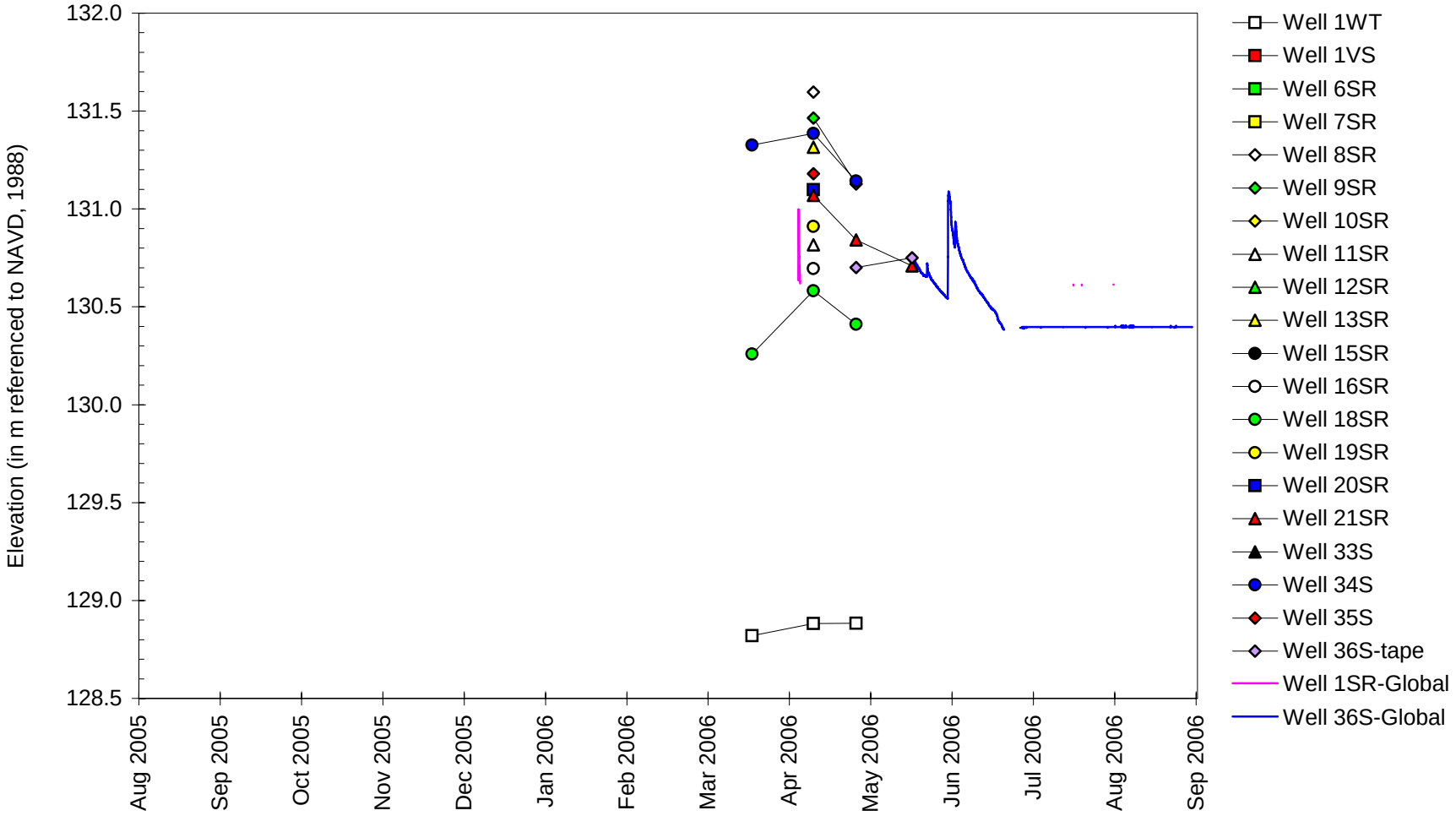
map based upon USGS digital orthophotograph, Cooperstown NE quarter quadrangle
produced from 4/14/98 aerial photography (ISGS 2002)



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

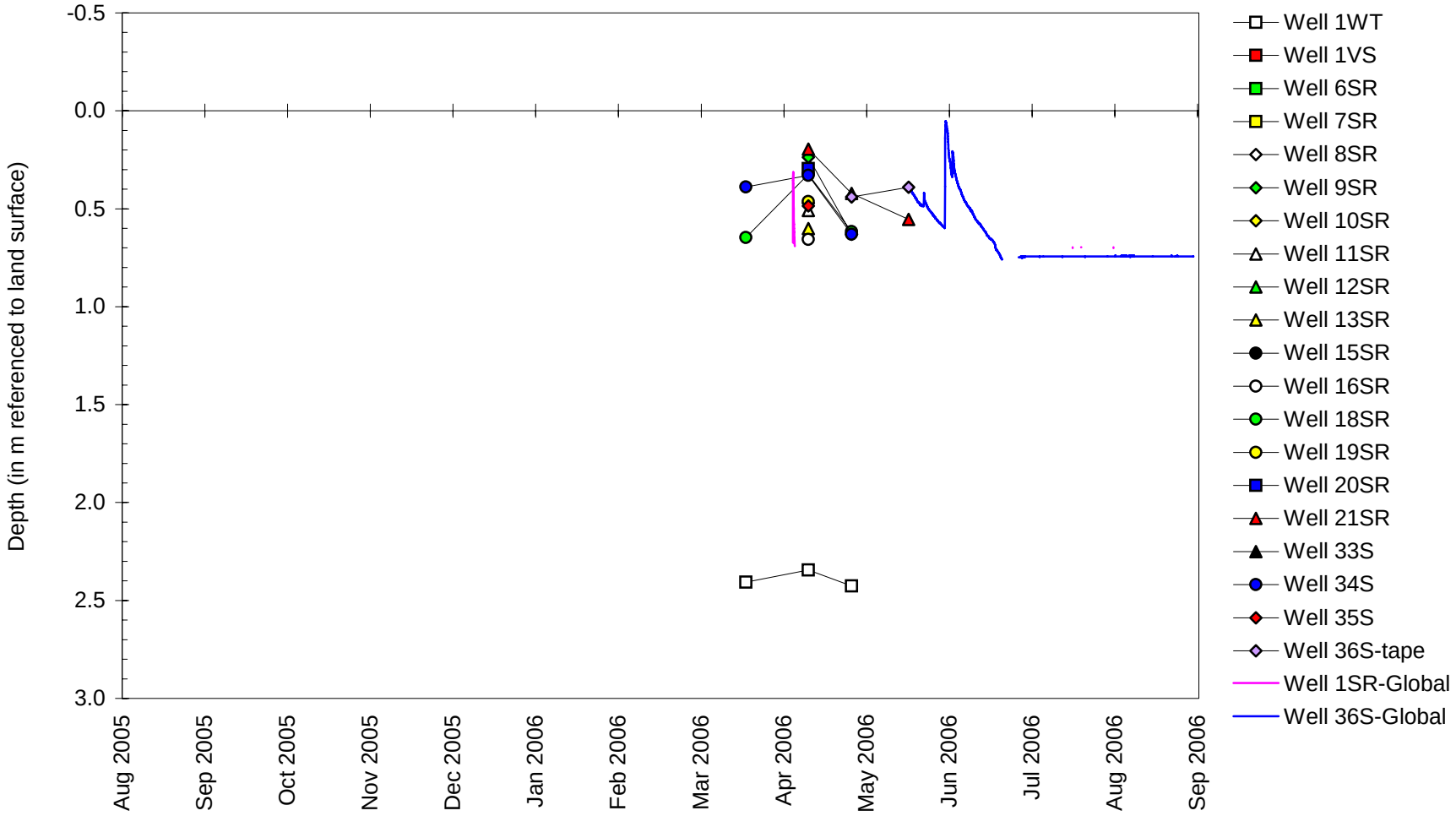
Water-Level Elevations in Shallow Monitoring Wells in the Basin of Big Lake



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

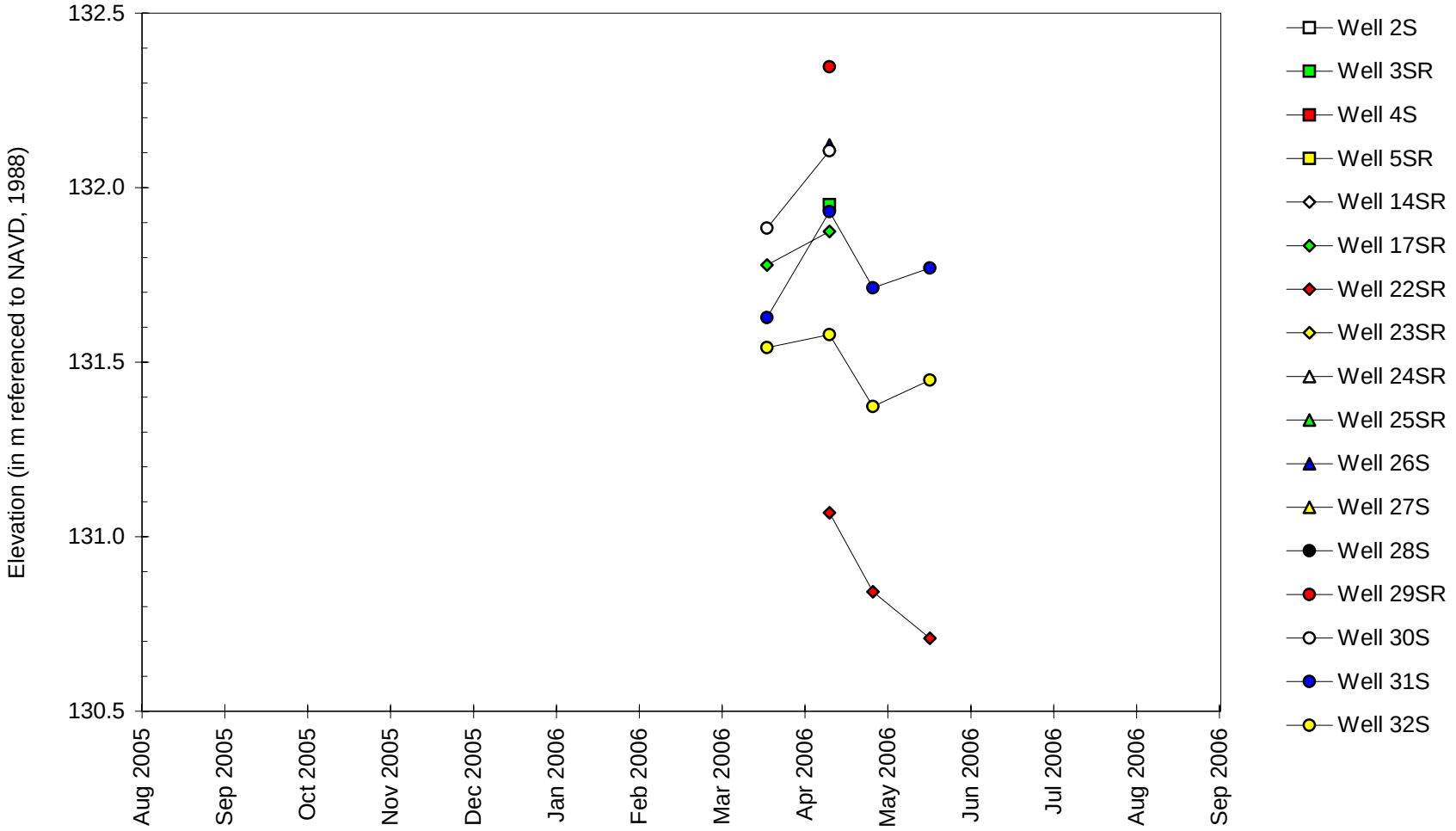
Depth to Water
in Shallow Monitoring Wells
in the Basin of Big Lake



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

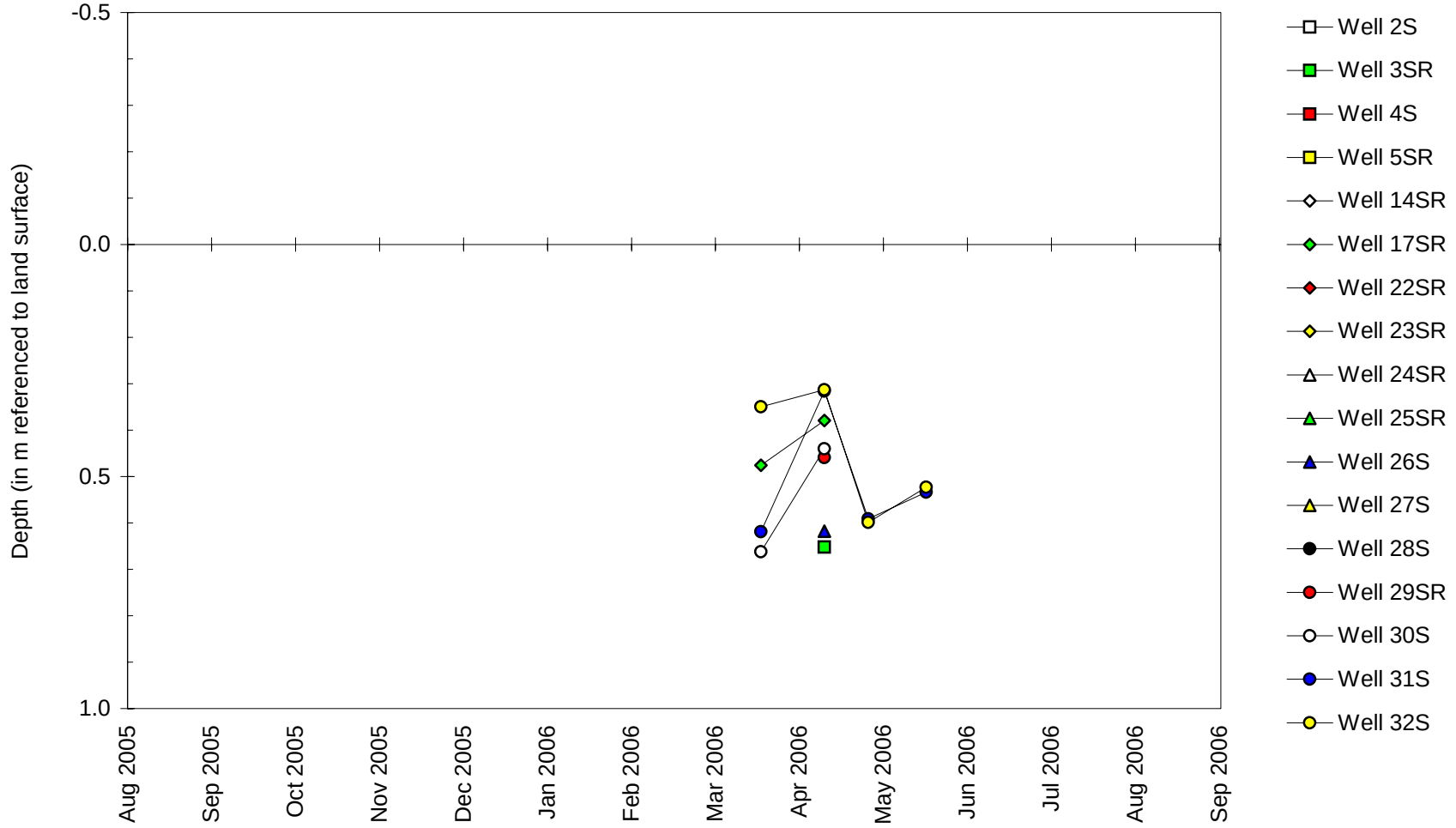
Water-Level Elevations in Shallow Monitoring Wells in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

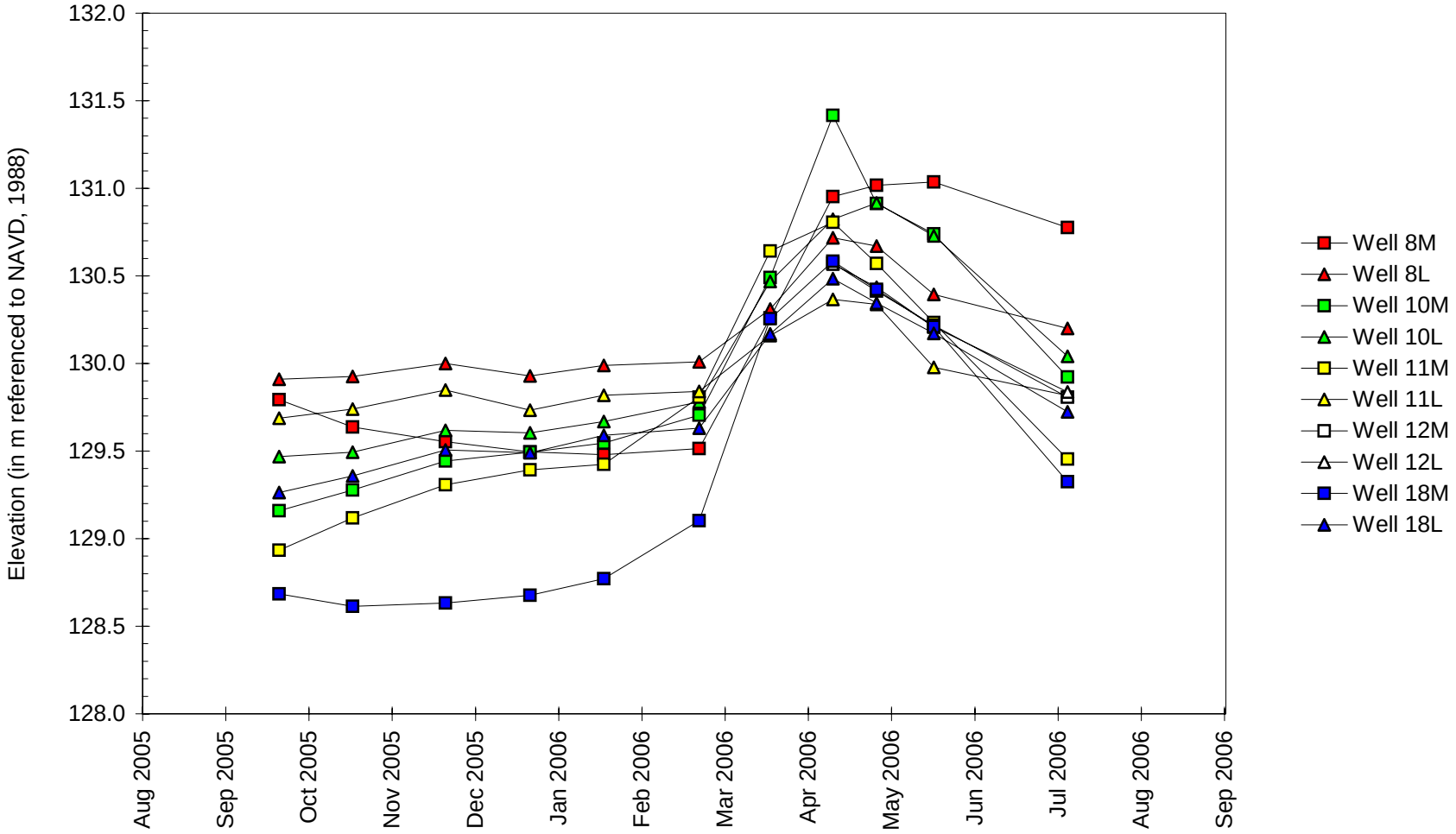
Depth to Water
in Shallow Monitoring Wells
in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

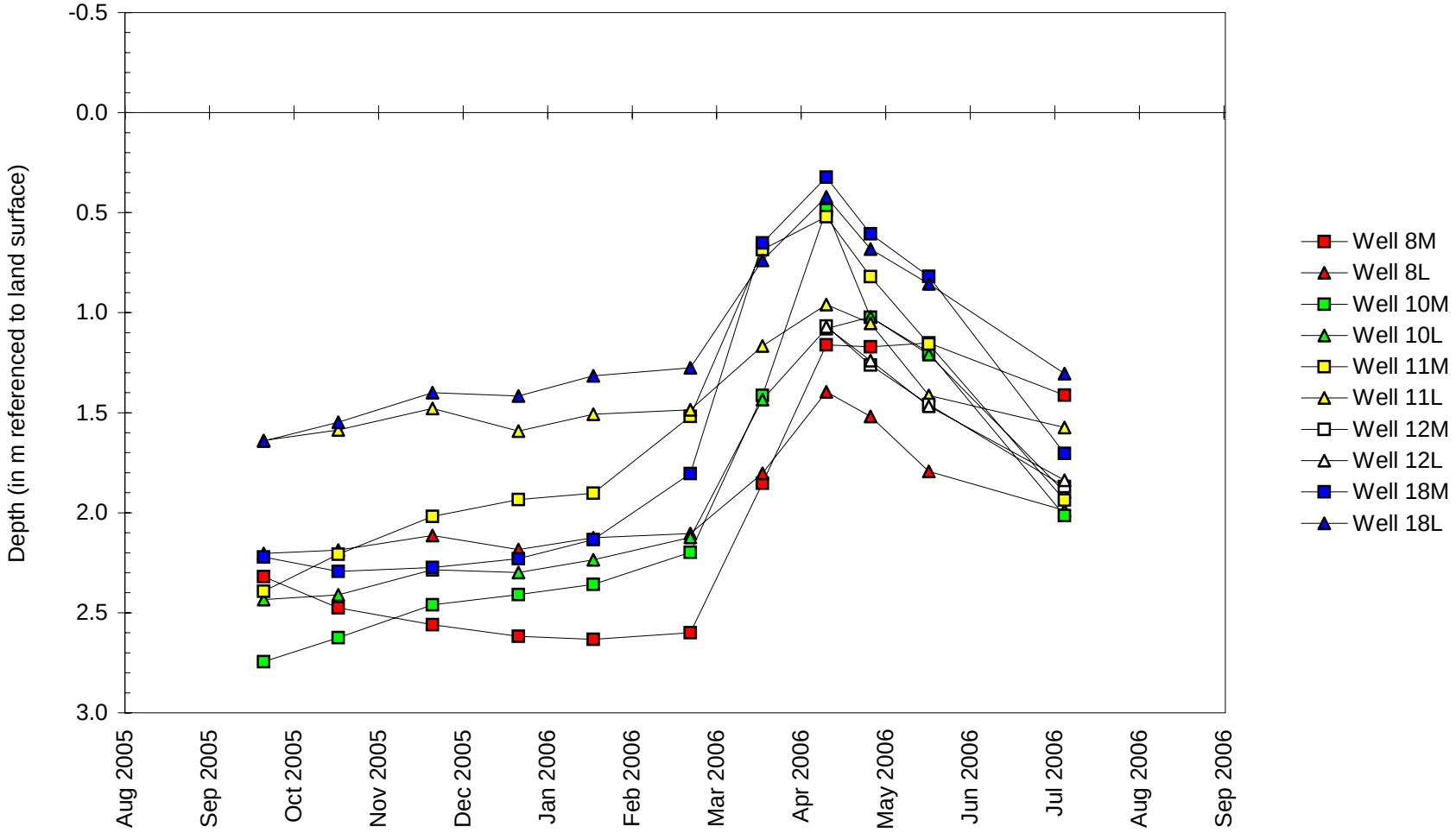
Water-Level Elevations in Deeper Monitoring Wells in the Basin of Big Lake



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

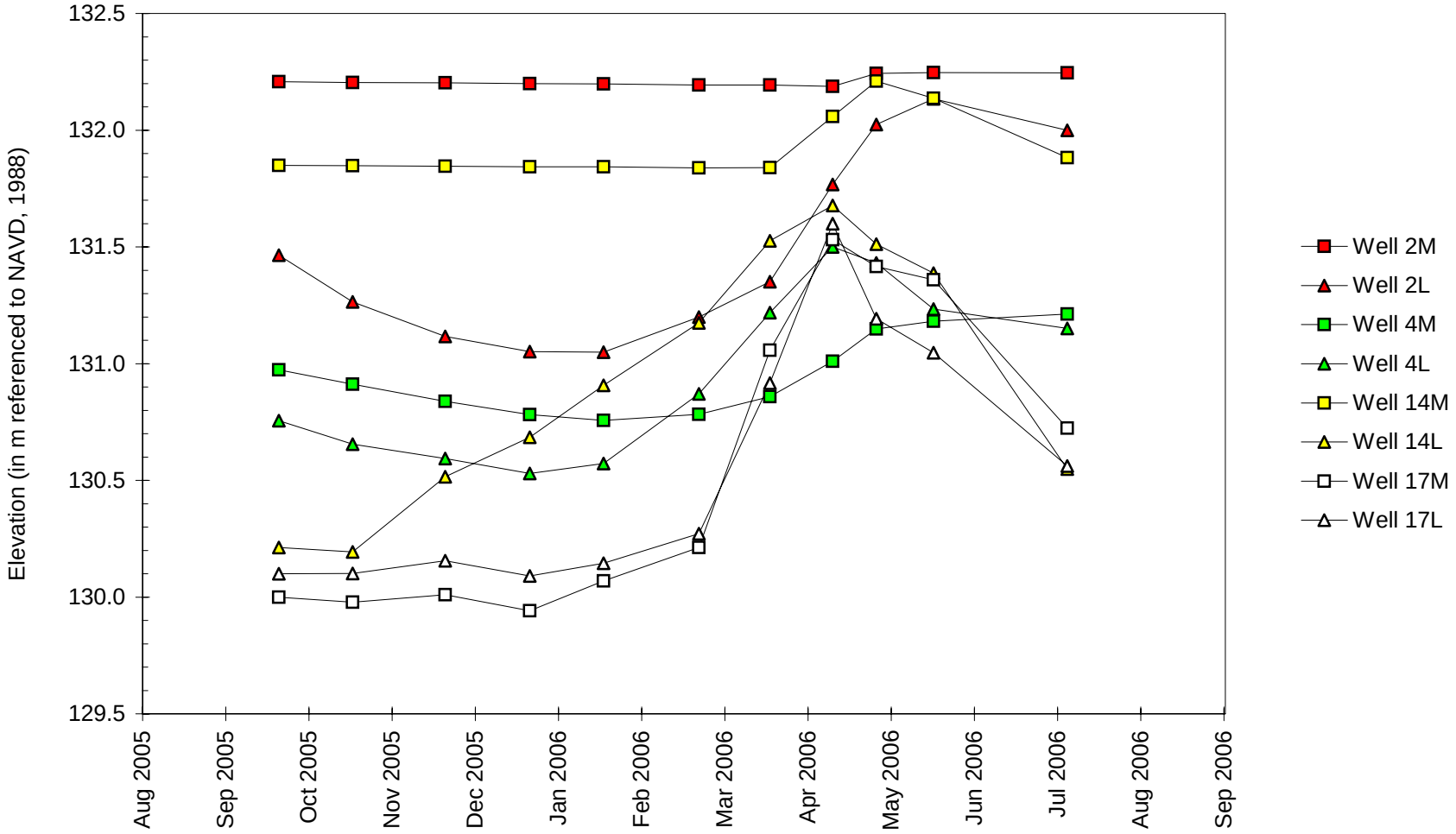
Depth to Water
in Deeper Monitoring Wells
in the Basin of Big Lake



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

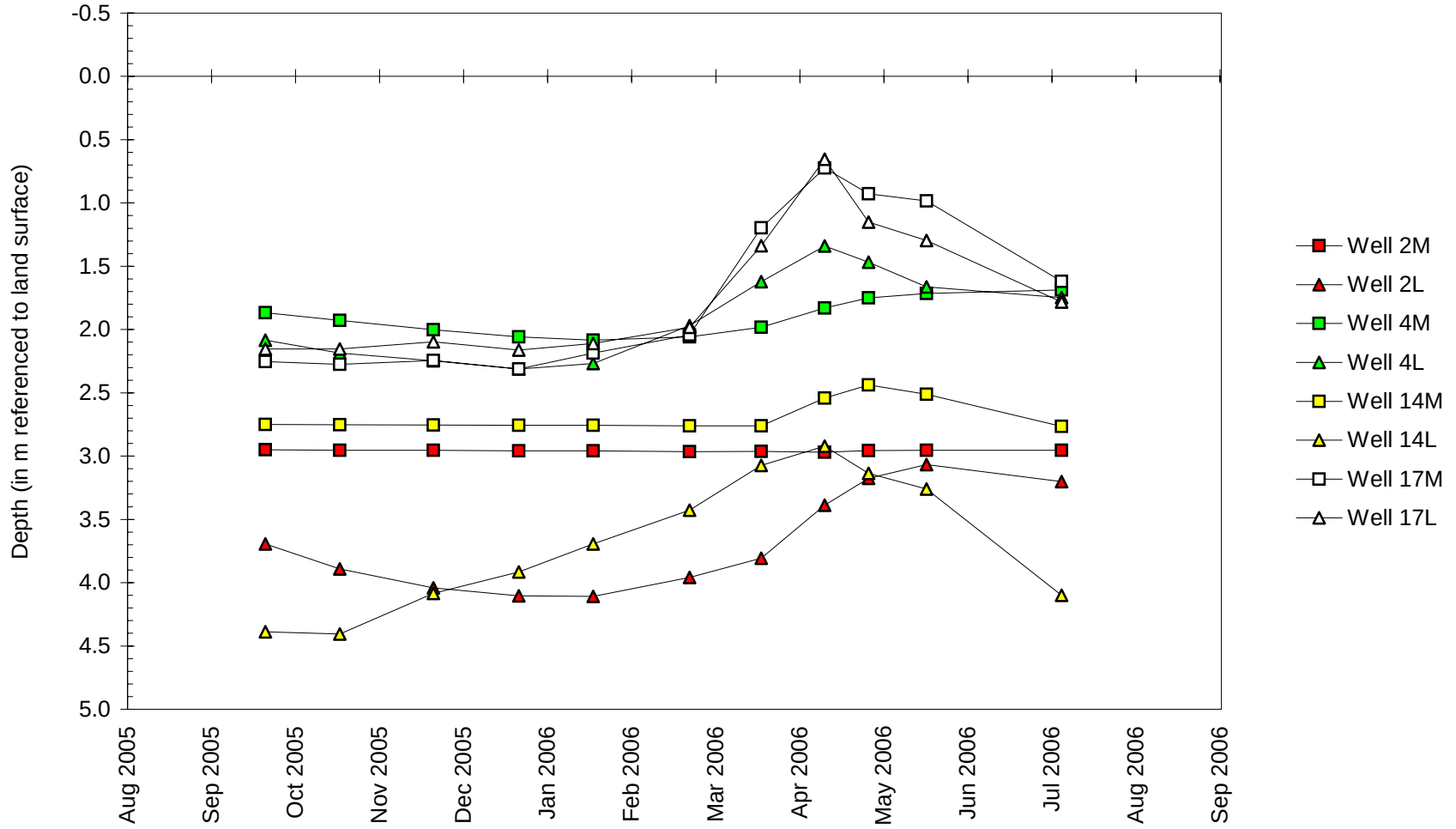
Water-Level Elevations in Deeper Monitoring Wells in the Terrace and Fan



Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

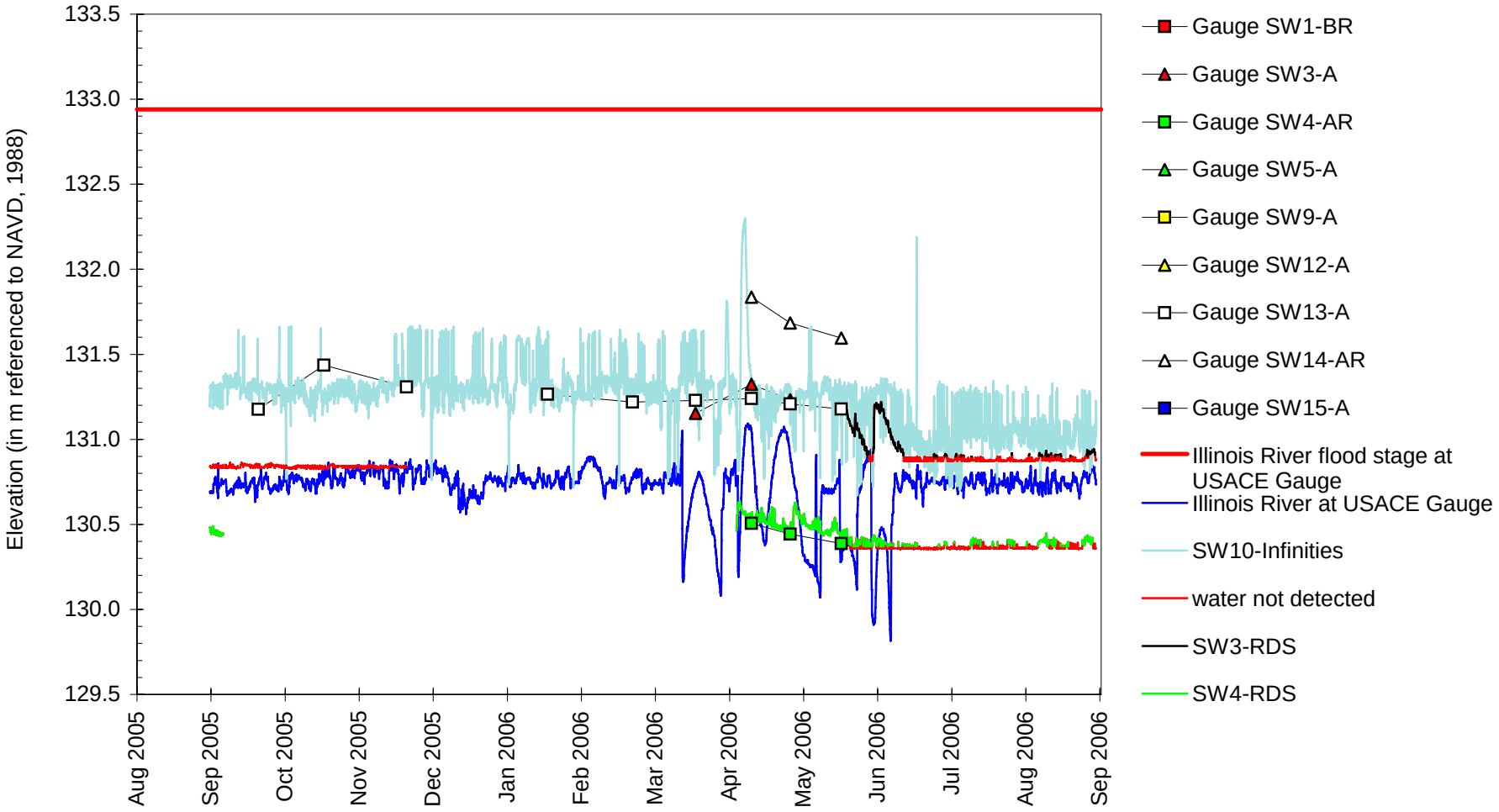
Depth to Water
in Deeper Monitoring Wells
in the Terrace and Fan



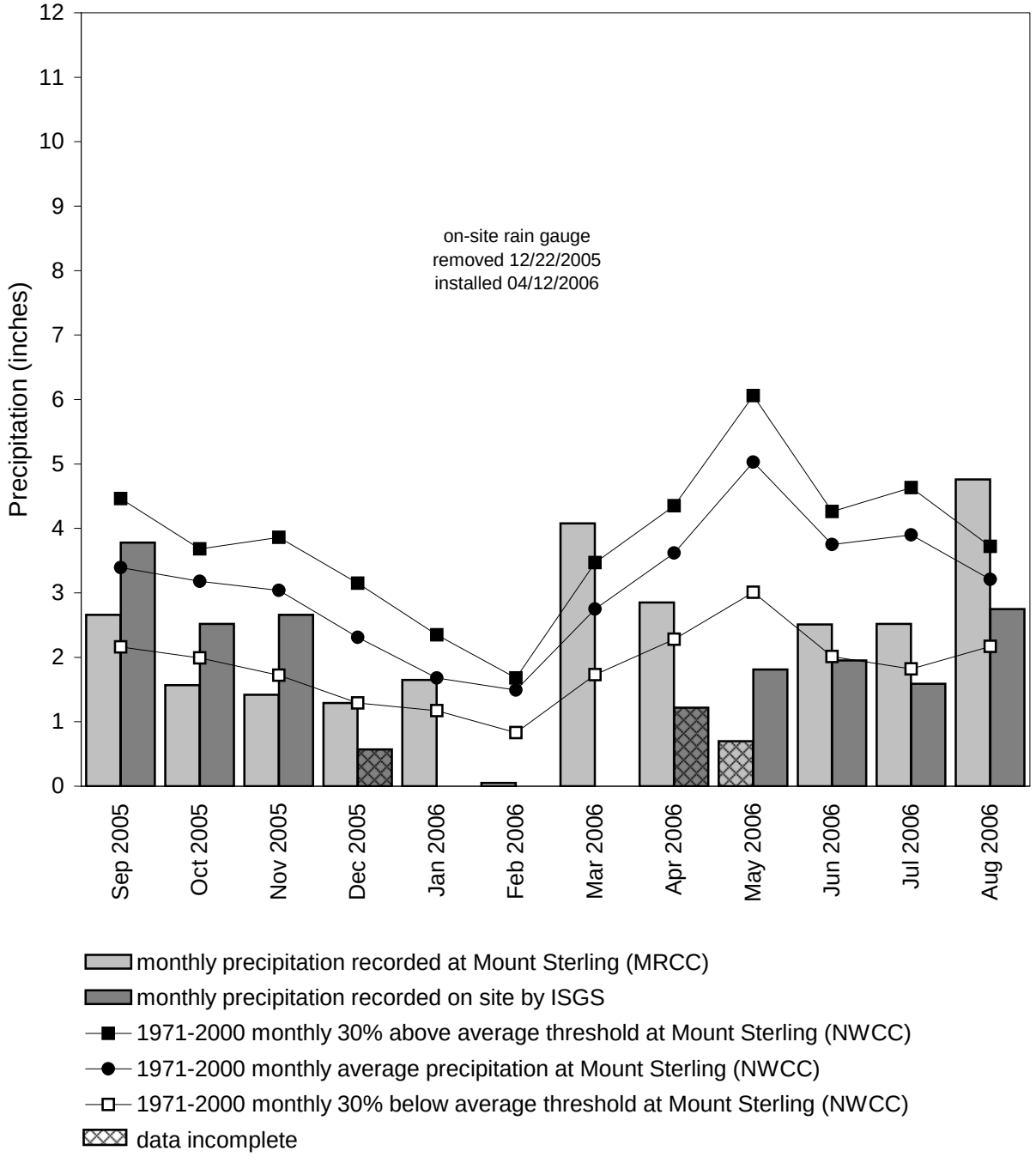
Former Wessel Property, La Grange Wetland Bank Site

September 1, 2005 to September 1, 2006

Water-Level Elevations on Surface Water Gauges



Former Wessel Property,
La Grange Wetland Bank Site
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Mount Sterling, IL Weather Station



Graph last updated October 18, 2006

FAIRMONT CITY, NEW RIVER CROSSING **ISGS #53**
POTENTIAL WETLAND COMPENSATION SITE
FAP 999
St. Clair County, near Fairmont City, Illinois
Primary Project Manager: Steven E. Benton
Secondary Project Manager: not assigned

SITE HISTORY

- August 1999: The ISGS conducted an Initial Site Evaluation. The results were reported to IDOT by letter in November.
- June 2000: IDOT requested that the ISGS perform a Level II investigation.
- September 2000: ISGS began monitoring ground- and surface-water levels.
- March 2003: A Level II report was submitted to IDOT (ISGS Open File Series 2003–04).

WETLAND HYDROLOGY CALCULATION FOR 2006

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for more than 5% of the 2006 growing season was estimated to be 8.1 ha (20.0 ac) out of a total area of 32.4 ha (80.0 ac). The area that satisfied wetland hydrology criteria for more than 12.5% of the 2006 growing season was also estimated to be 8.1 ha (20.0 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Belleville, Illinois, is April 6 and the season lasts 199 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.
- Total precipitation recorded at the Belleville, Illinois weather station during the 2006 monitoring period was 36.35 inches, which was 93% of normal. Precipitation in September 2005, November 2005, and March 2006 was at or above normal. Total precipitation in the spring was 75% of normal.
- At gauge AR, surface-water elevation was at or above 122.00 m (400.26 ft) for both 5% and 12.5% of the growing season. At gauge D, surface-water elevation was at or above 122.22 m (400.98 ft) for both 5% and 12.5% of the growing season. At the Global data logger, surface-water elevation was at or above 121.65 m (399.11 ft) for both 5% and 12.5% of the growing season.

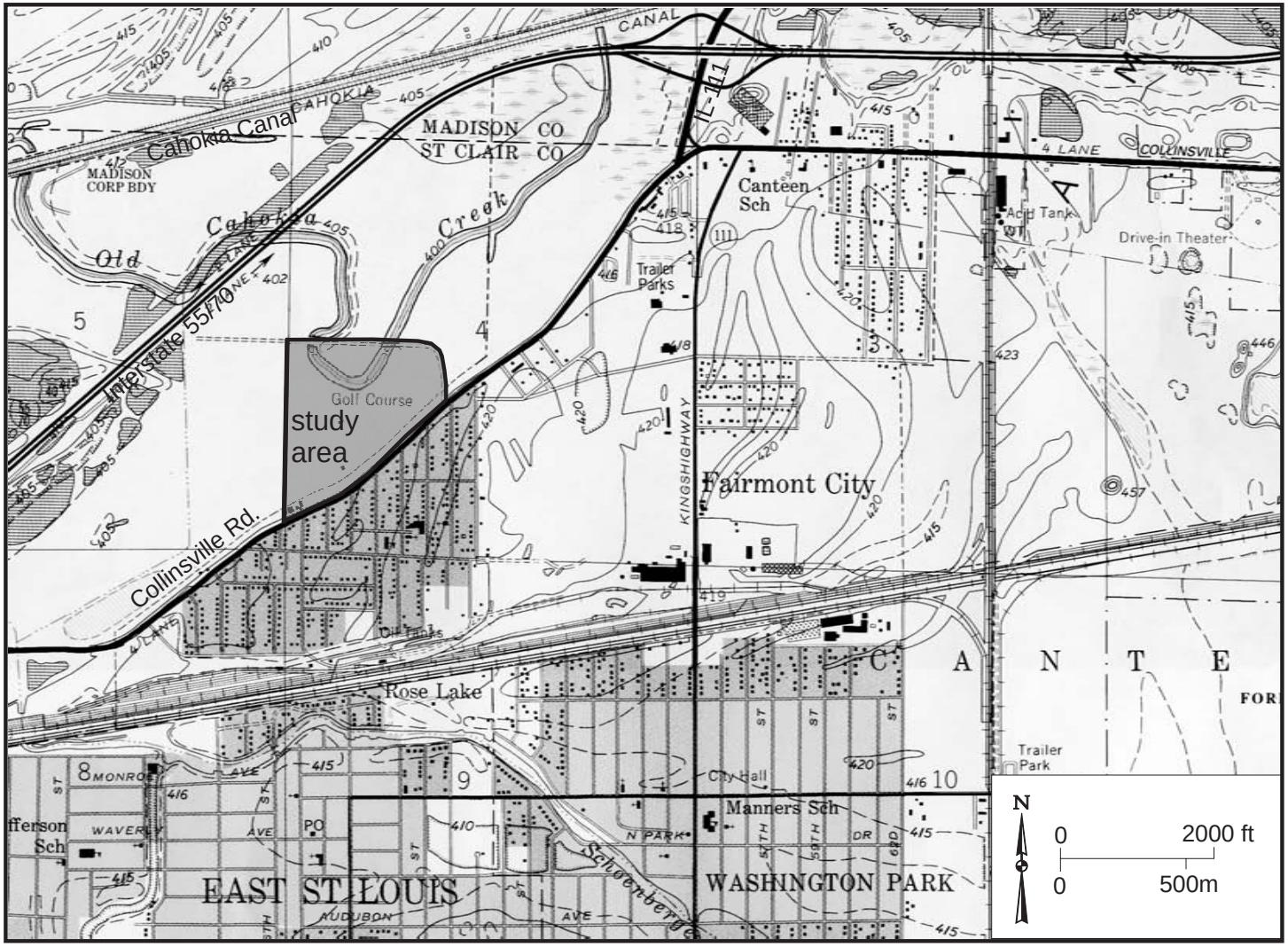
PLANNED FUTURE ACTIVITIES

- Monitoring will continue at this site until notified otherwise by IDOT.

Fairmont City, New River Crossing Potential Wetland Compensation Site (FAP 999)

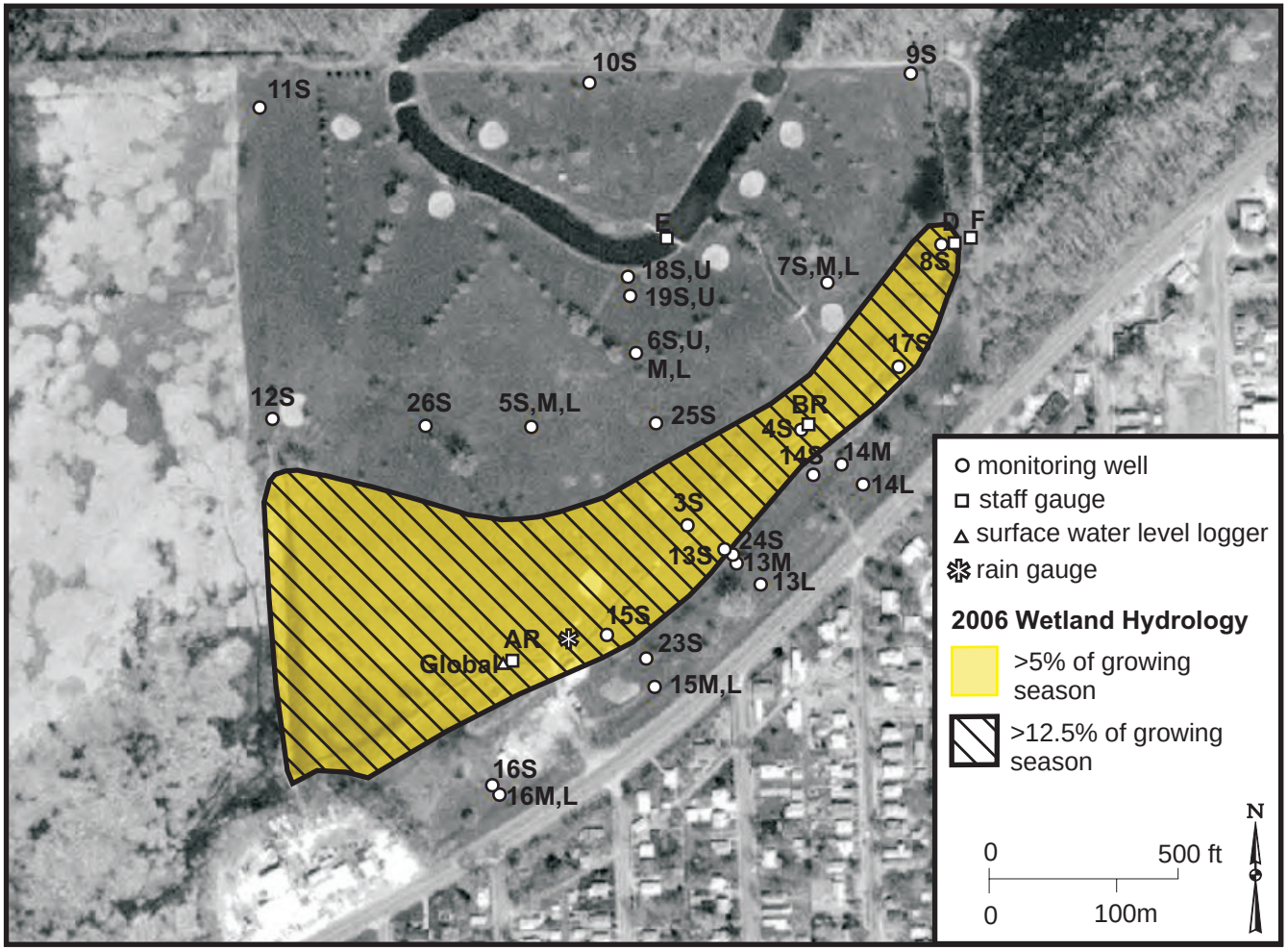
General Study Area and Vicinity

from the USGS Topographic Series, Monks Mound, IL 7.5-minute Quadrangle (USGS 1993)



Fairmont City Potential Wetland Compensation Site
(FAP 999)
Estimated Areal Extent of 2006 Wetland Hydrology
based on data collected between September 1, 2005 and September 1, 2006

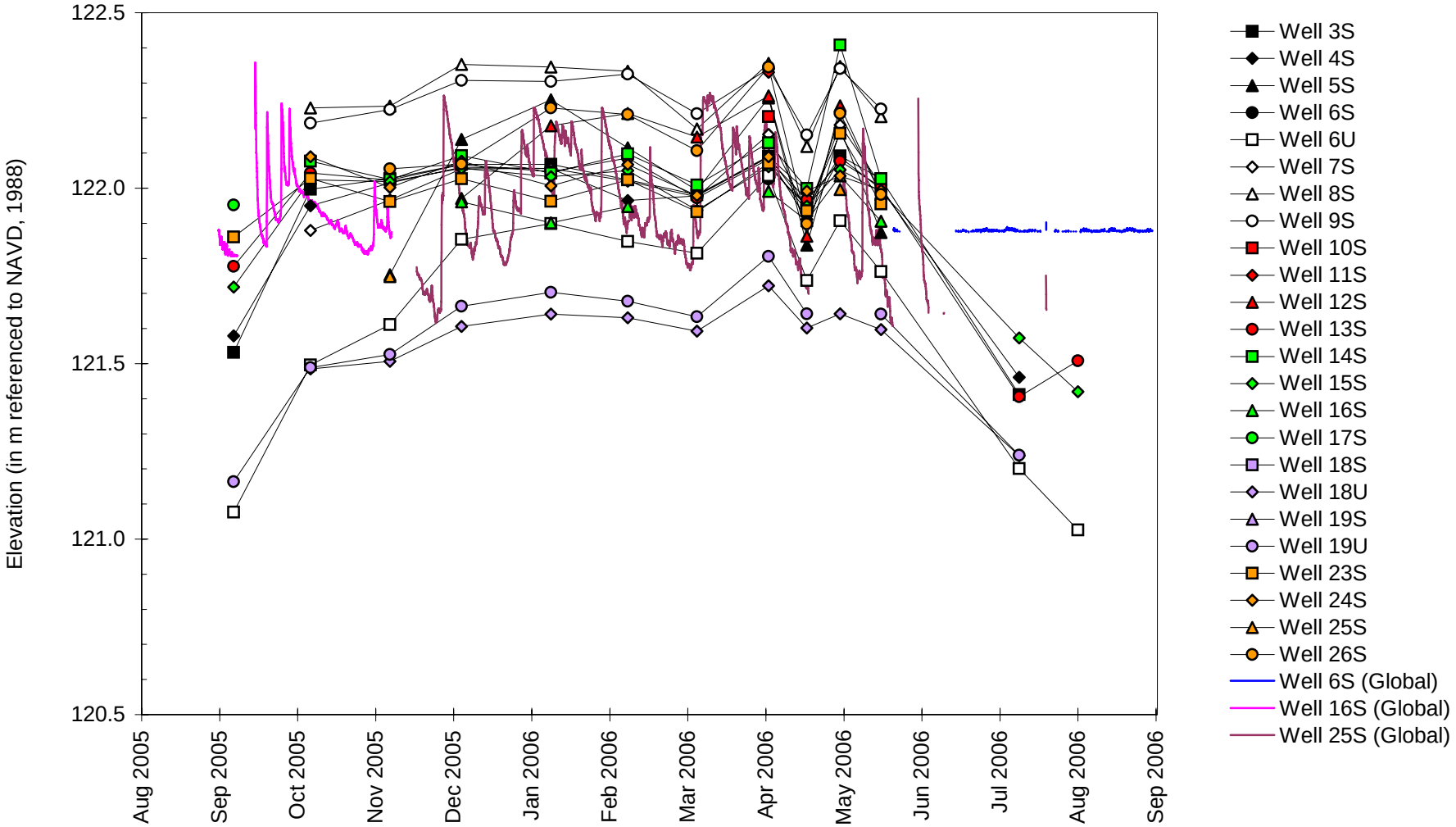
Map based on USGS digital orthophotograph, Monks Mound SW quarter quadrangle
produced from 04/08/1999 aerial photography (ISGS 2001)
monitoring well, staff gauge and data logger locations from GPS survey



Fairmont City, New River Crossing Potential Wetland Compensation Site

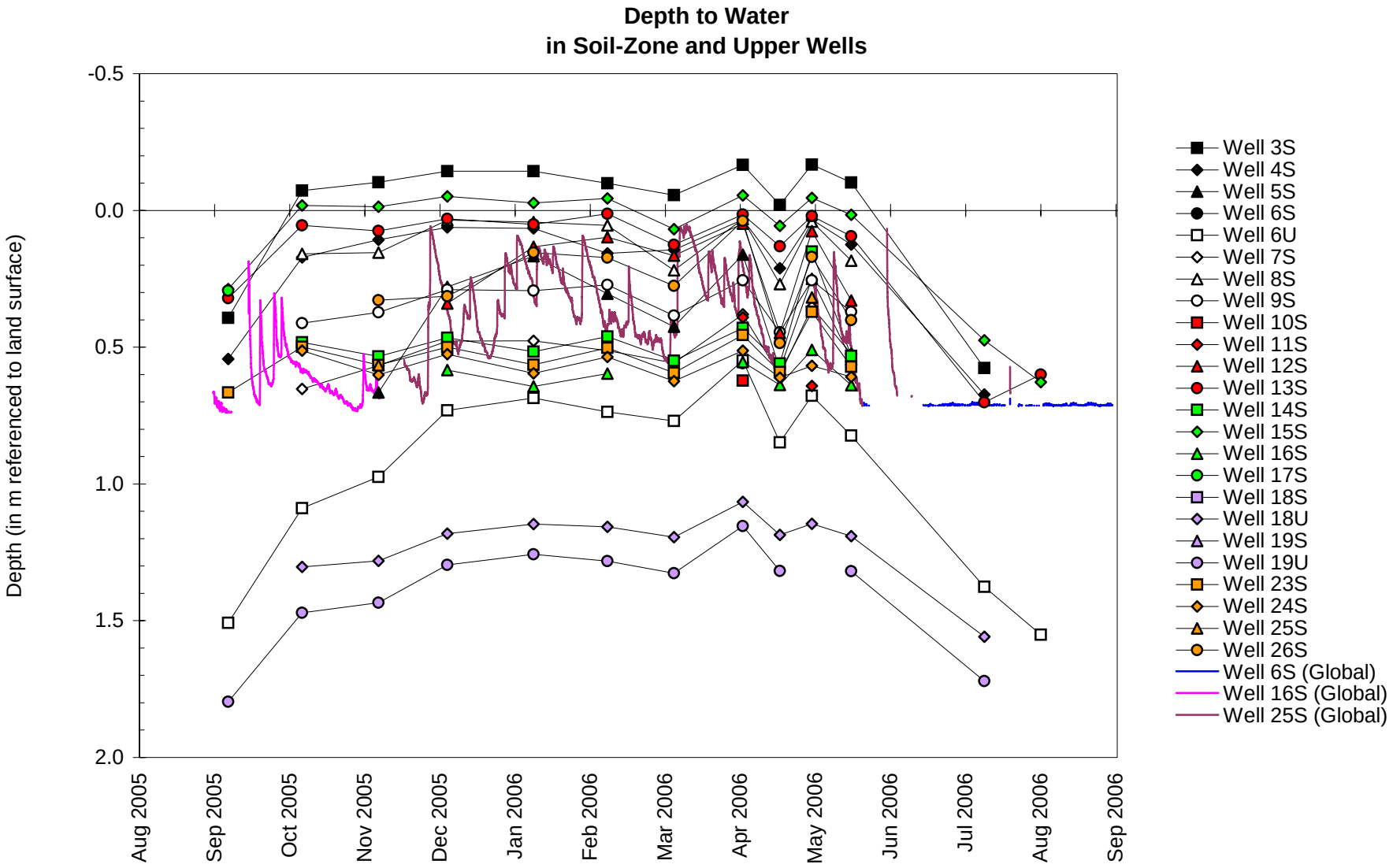
September 1, 2005 to September 1, 2006

Water-Level Elevations in Soil-Zone and Upper Wells



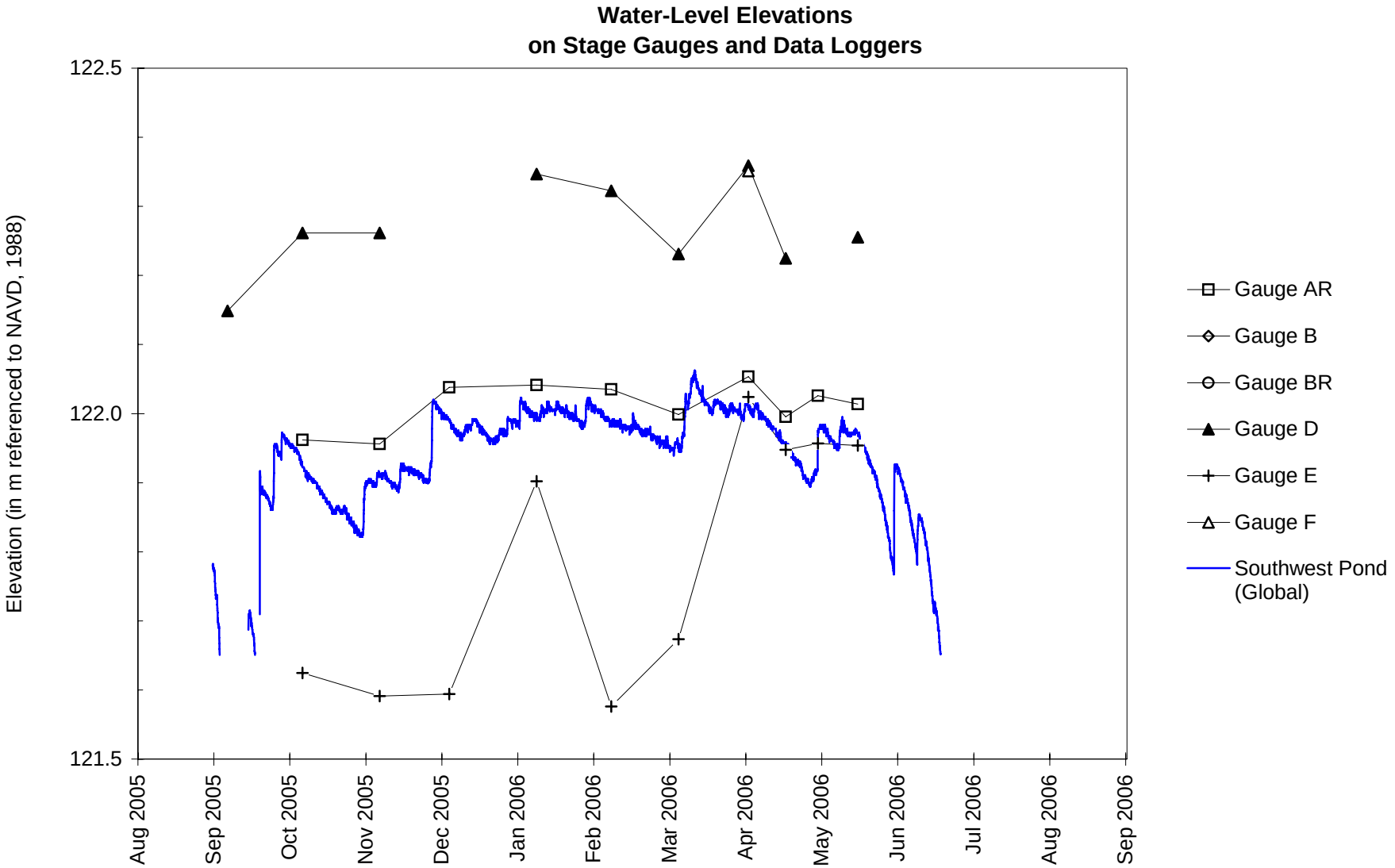
Fairmont City, New River Crossing Potential Wetland Compensation Site

September 1, 2005 to September 1, 2006



Fairmont City, New River Crossing Potential Wetland Compensation Site

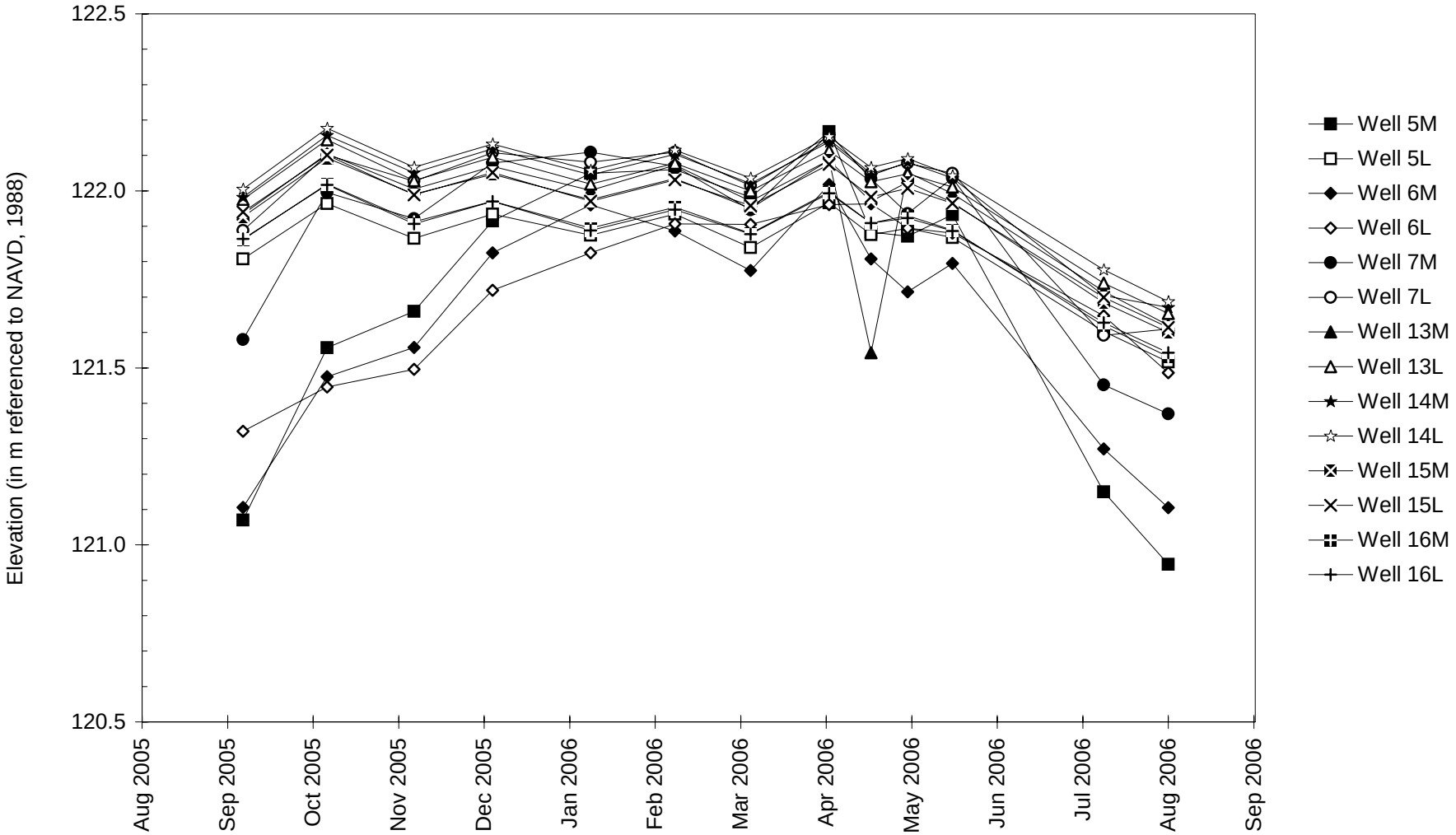
September 1, 2005 to September 1, 2006



Fairmont City, New River Crossing Potential Wetland Compensation Site

September 1, 2005 to September 1, 2006

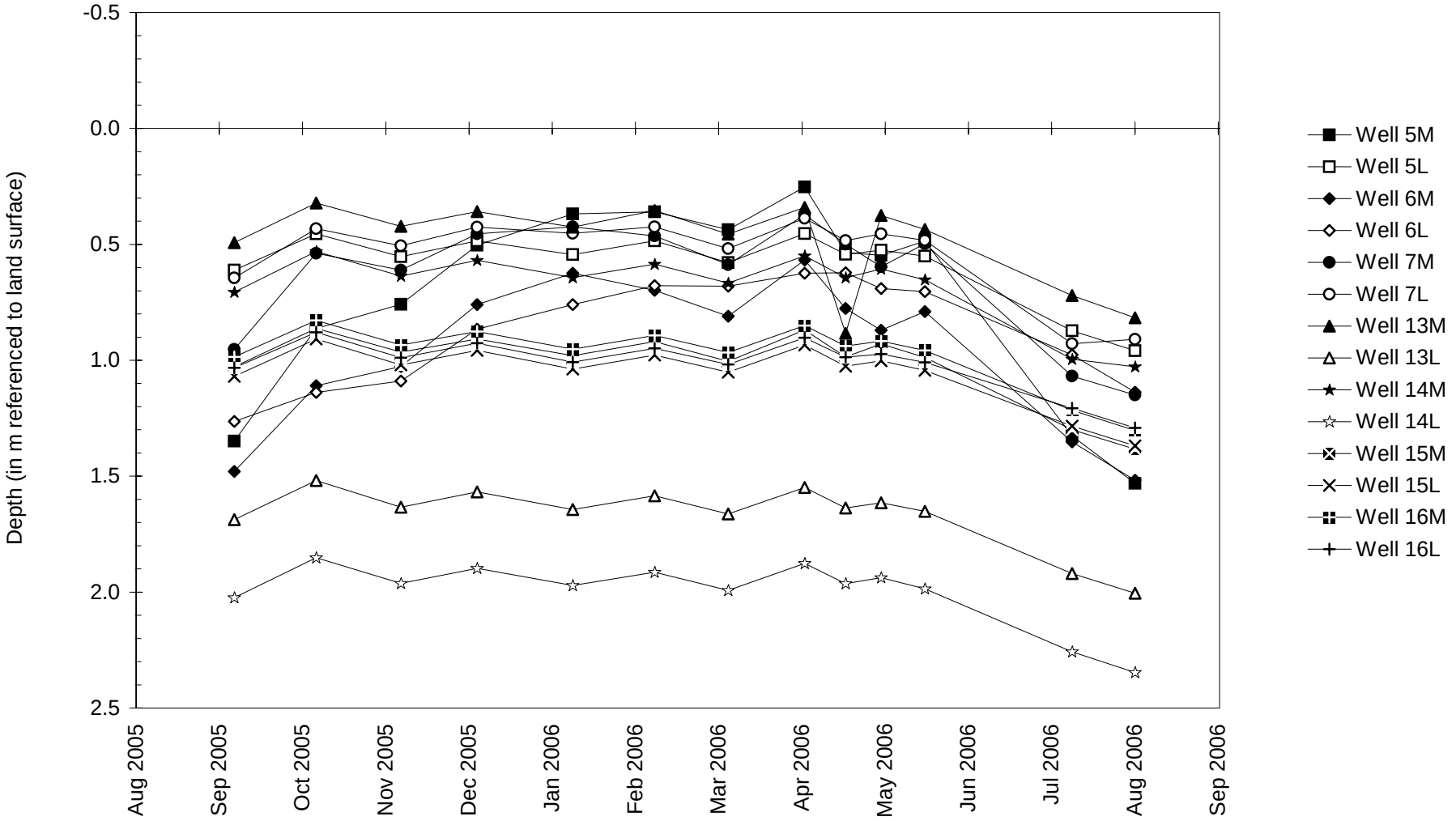
Water-Level Elevations in Middle and Lower Wells



Fairmont City, New River Crossing Potential Wetland Compensation Site

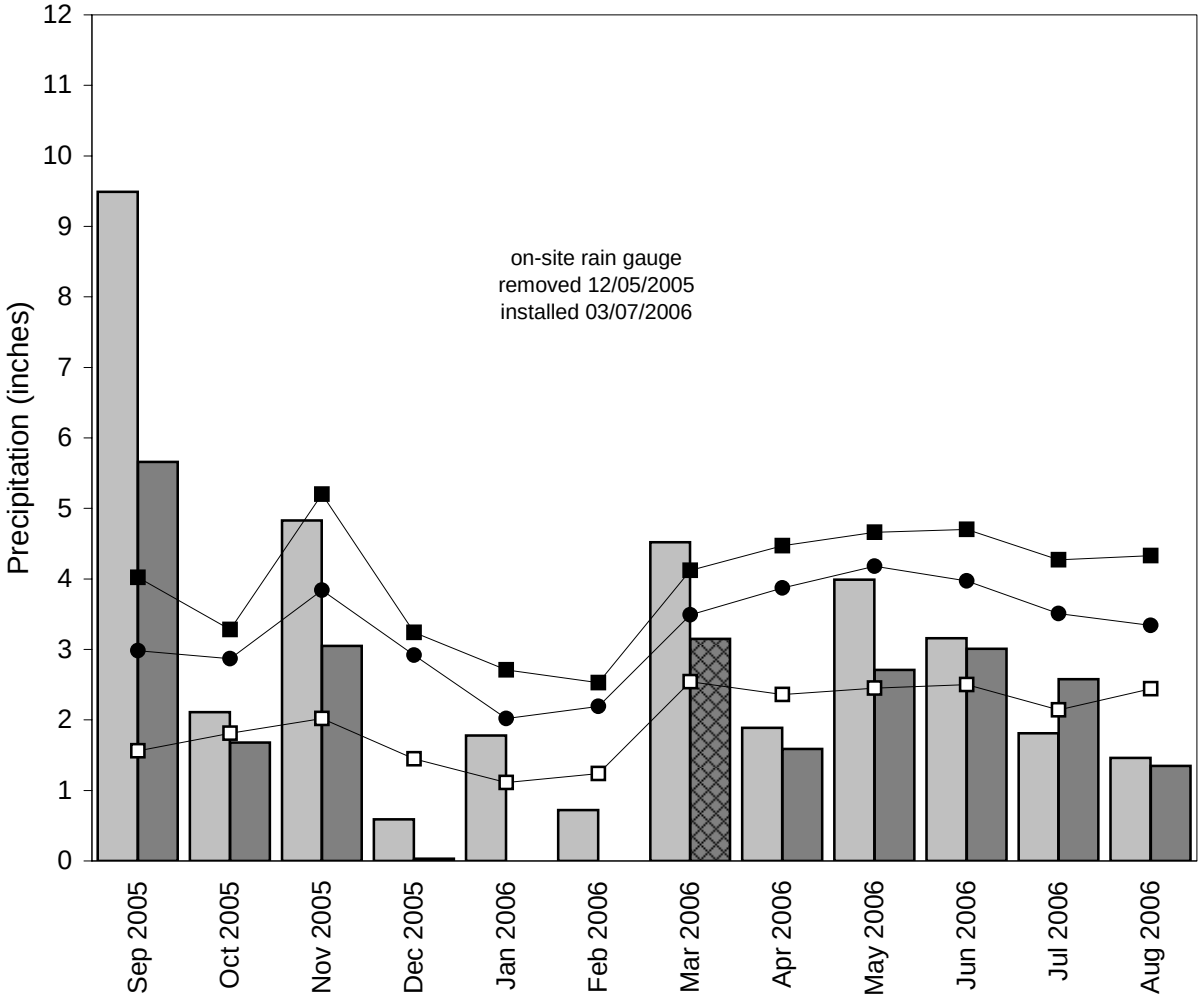
September 1, 2005 to September 1, 2006

Depth to Water
in Middle and Lower Wells



Fairmont City, New River Crossing
Potential Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Belleville, IL SIU Research Center Weather Station



monthly precipitation recorded at weather station (Midwestern Regional Climate Center)
monthly precipitation recorded on site by ISGS
1971-2000 monthly 30% above average threshold (National Water and Climate Center)
1971-2000 monthly average precipitation (National Water and Climate Center)
1971-2000 monthly 30% below average threshold (National Water and Climate Center)
data incomplete

Graph last updated October 13, 2006

SPRINGFIELD, IL ROUTE 29 **ISGS #54**
WETLAND COMPENSATION SITE
FAP 658
Sangamon County near Springfield, Illinois
Primary Manager: Geoffrey E. Pociask
Secondary Manager: Eric T. Plankell

SITE HISTORY

- September 1996: ISGS conducted an Initial Site Evaluation of the proposed compensation site and reported findings to IDOT.

- Spring 1997: The wetland compensation site was constructed.

- June 2000: ISGS was initially tasked by IDOT to monitor wetland hydrology on the compensation site. Monitoring activities began on the north portion in September 2000 and on the south portion in December 2001.

- April 2005: ISGS received a transmittal from IDOT to continue monitoring through 2007.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that 1.7 ha (4.2 ac) out of an excavation of 2.2 ha (5.4 ac) satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006, whereas the area that satisfied wetland hydrology criteria for greater than 12.5% of the growing season was 0.8 ha (2.0 ac). The 2006 estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Springfield, Illinois, is April 6 and the season lasts 205 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.

- Total precipitation for the reporting period from September 2005 through August 2006 was 88% of normal. Drier than normal conditions prevailed in December 2005 and in February, May, June, and August 2006. Precipitation amounts were at or above normal for September through November 2005 and in January, March, April, and July 2006. Conditions during March and April 2006 were particularly wet with 158% of normal precipitation.

- Wells 13S, 14S, 15S, 16S, 17S, 18S, 20S and 21S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 13S, 14S, 15S, 16S, and 17S also satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- The surface-water data logger (RDS 1) indicated areas at or below 156.72 m (514.17 ft) in the closed depression in the north end of the site remained inundated for greater than 5% of the growing season. In the same depression, areas at or below 156.56 m (513.64 ft) were inundated for greater than 12.5% of the growing season.

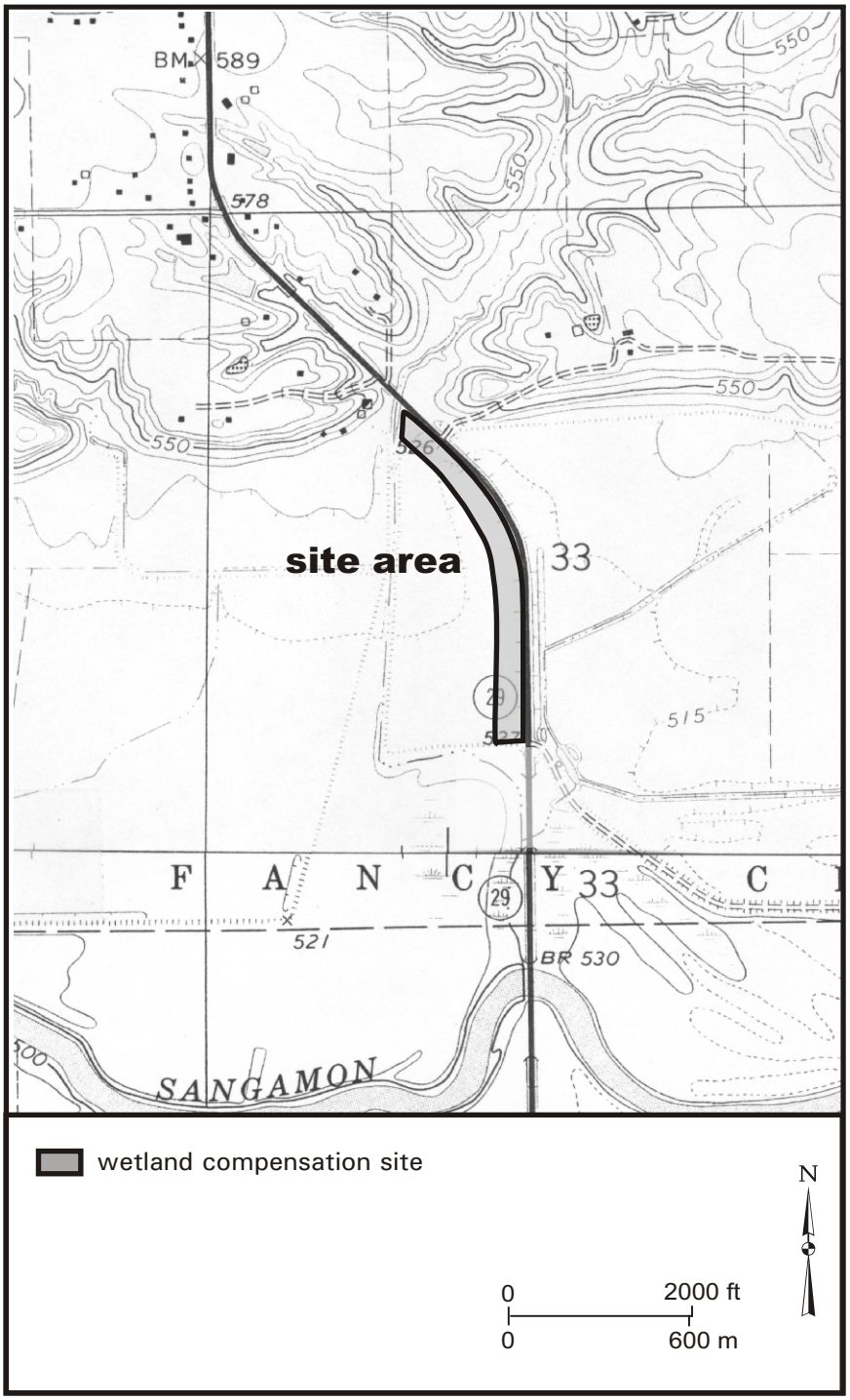
PLANNED FUTURE ACTIVITIES

- Monitoring will continue through 2007 or until no longer required by IDOT.

Springfield, IL Route 29 Wetland Compensation Site
(FAP 658)

General Study Area and Vicinity

from the USGS Topographic Series, Athens, IL (USGS 1966; photorevised 1971 and 1976) and Springfield West, IL (USGS 1965; photorevised 1971 and 1976) 7.5-minute Quadrangles
contour interval is 10 feet

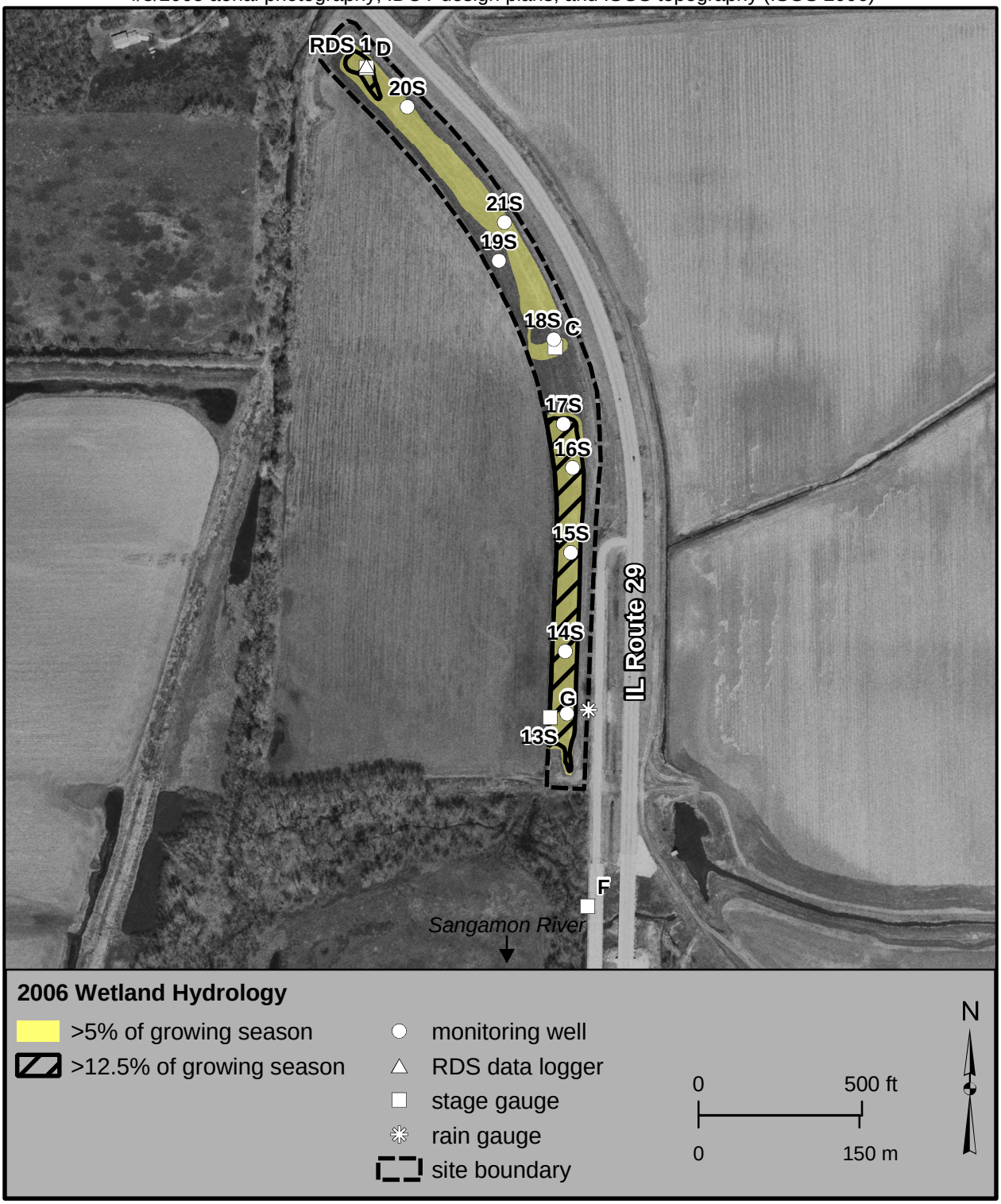


Springfield, IL Route 29 Wetland Compensation Site (FAP 658)

Estimated Areal Extent of 2006 Wetland Hydrology

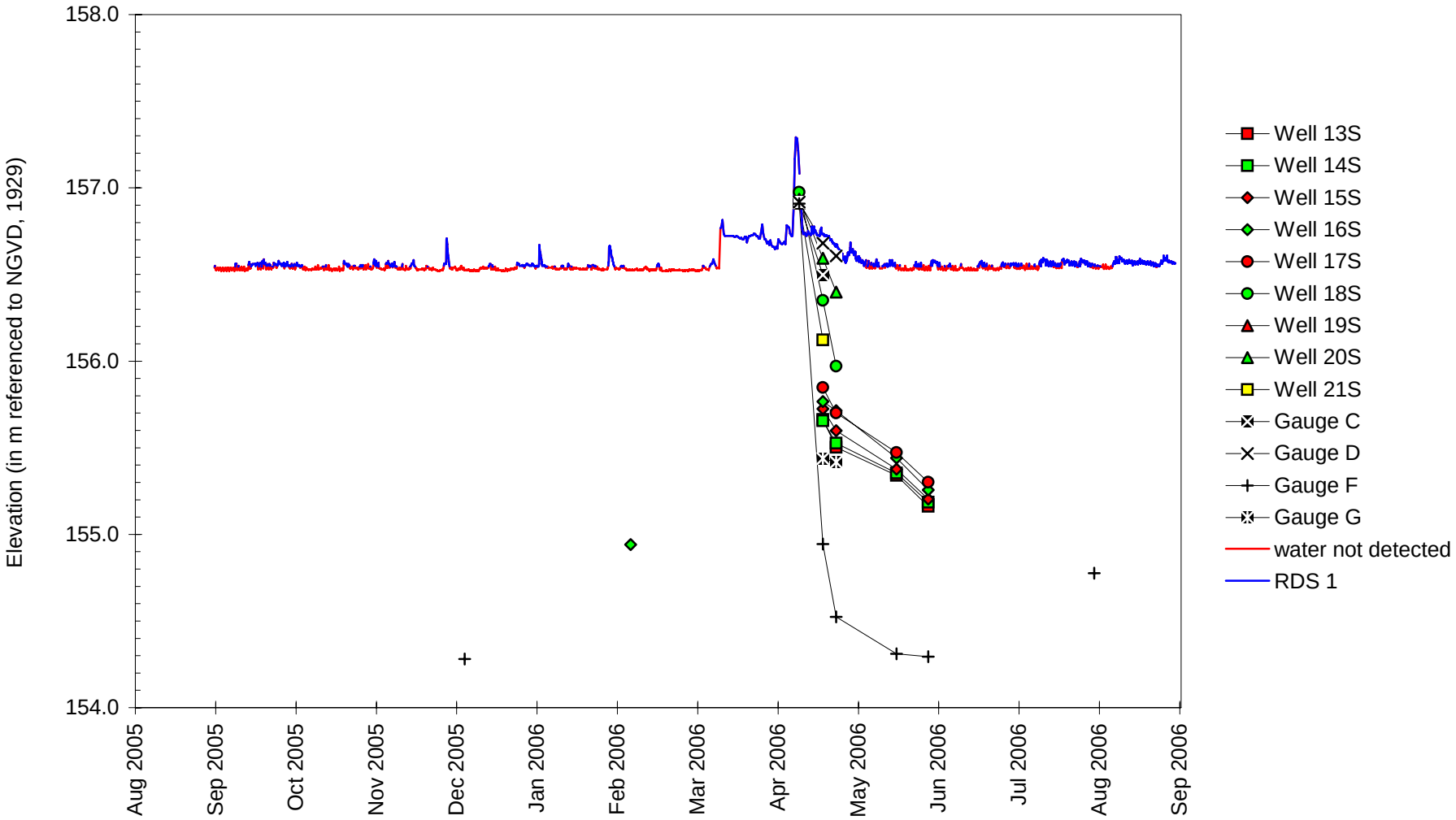
based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Athens SW quarter quadrangle from 4/8/2005 aerial photography, IDOT design plans, and ISGS topography (ISGS 2006)



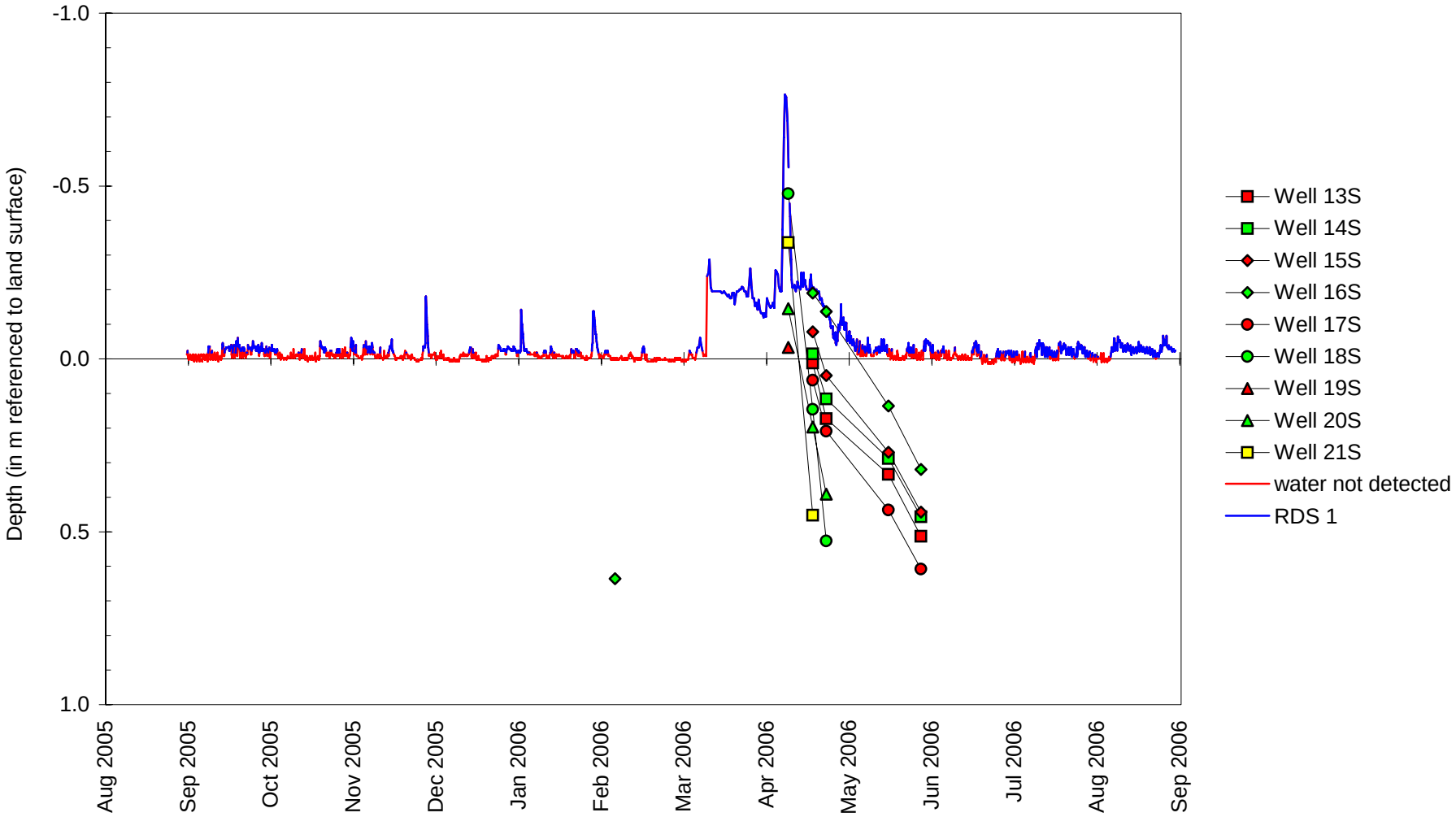
Springfield, IL Route 29 Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations

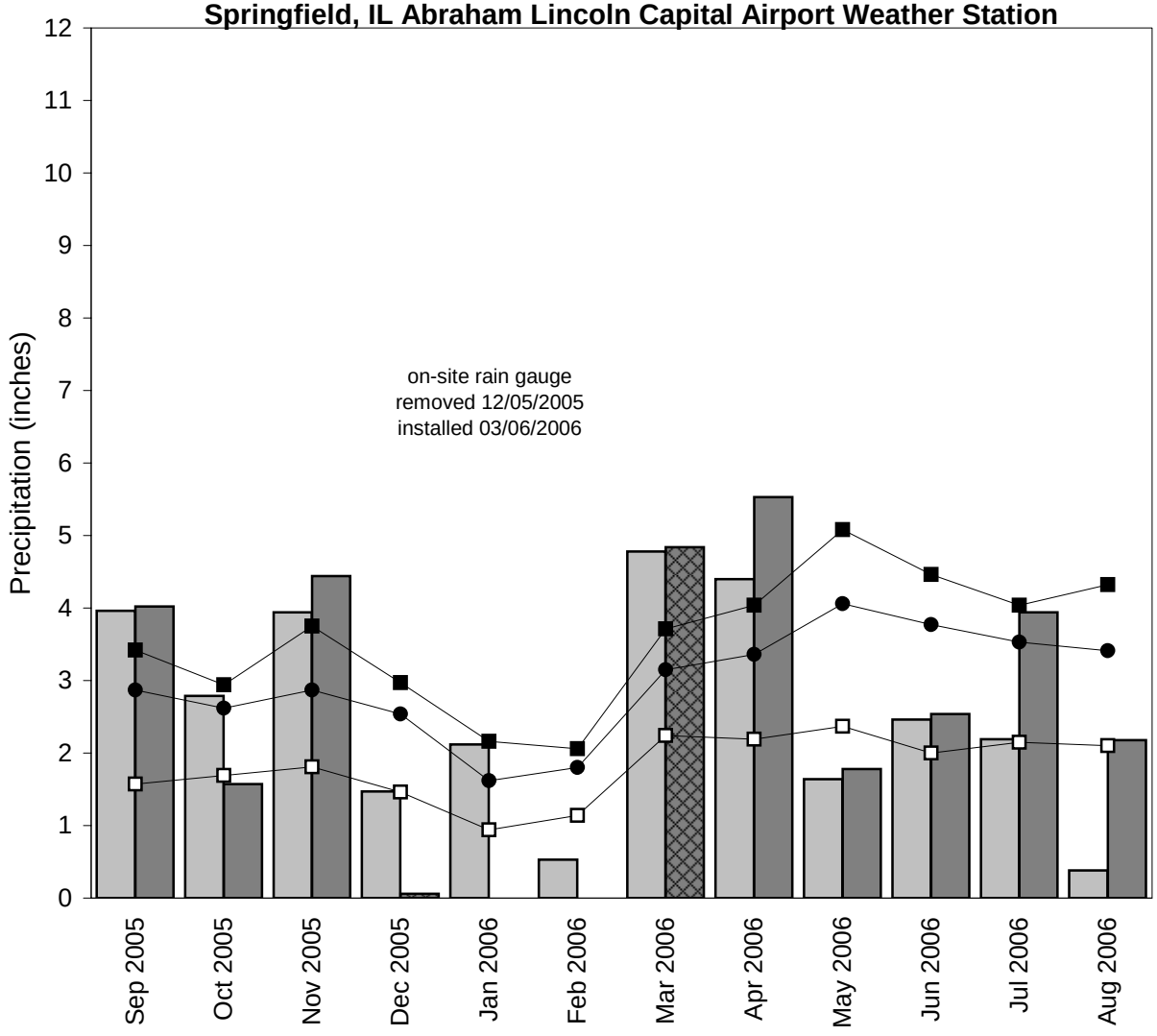


Springfield, IL Route 29 Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water



Springfield, IL Route 29
Wetland Compensation Site
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Springfield, IL Abraham Lincoln Capital Airport Weather Station



monthly precipitation recorded at weather station (Midwestern Regional Climate Center)

monthly precipitation recorded on site by ISGS

1971-2000 monthly 30% above average threshold (National Water and Climate Center)

1971-2000 monthly average precipitation (National Water and Climate Center)

1971-2000 monthly 30% below average threshold (National Water and Climate Center)

data incomplete

Graph last updated October 13, 2006

FORMER TIERNAN PROPERTY, NEW RIVER CROSSING **ISGS #57**
POTENTIAL WETLAND COMPENSATION SITE
FAP 999
Sequence #33G
St. Clair County, near Cahokia, Illinois
Primary Project Manager: Bonnie J. R. Sperling
Secondary Project Manager: not assigned

SITE HISTORY

- July 2000: The ISGS was tasked to perform a Level II hydrogeologic assessment of the site.

- March–November 2001: Thirty-two S wells, ten VS wells, five M wells, two staff gauges, and six benchmarks were installed and surveyed. Six soil-moisture probes were installed in three clusters in the northern field. Water-quality sampling was terminated because no quality standards were exceeded in any of the initial samples.

- July 2005: A Level II hydrogeologic characterization report was submitted to IDOT (ISGS Open-File Series 2005–11).

WETLAND HYDROLOGY CALCULATION FOR 2006

The area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season was estimated to be 9.1 ha (22.4 ac) out of a total site area of 26.4 ha (65.3 ac). The area was also identical to that which satisfied the criteria for greater than 12.5% of the growing season. The estimates for 2006 are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Belleville, Illinois, is April 2 and the season lasts 214 days; 5% of the growing season is 11 days and 12.5% of the growing season is 27 days.

- Precipitation during the monitoring period was 93% of normal. Precipitation more than three times the normal amount in late September 2005 resulted in water being reported in the wells at the northern portion of the site. Despite below-normal precipitation through most of the fall and winter months, low evapotranspiration rates ensured that water levels (in wells that recorded the presence of water) remained at measurable levels. Alternating months of near-normal and below-normal precipitation beginning in March 2006 was reflected in fluctuating water levels. High summer evapotranspiration rates coupled with below-normal precipitation resulted in falling water levels throughout the summer.

- In 2006, water levels measured in wells 24S, 24VS, 25VS, 27S, 27VS, 28S, 28VS, 29S, 29VS, 30S, 30VS, 31S, 31VS, and 32S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season, while well 25S only satisfied wetland hydrology criteria for greater than 5% of the growing season. Surface-water readings at Gauge A indicate there was inundation sufficient to satisfy wetland hydrology criteria for greater than 12.5% of the growing season.

- Most of the southern half of the site (the former borrow pit) is mapped as pre-existing wetland, the hydrology of which is controlled primarily by the water level in Blue Waters

Ditch southeast of the site. Below-normal precipitation through most of the year resulted in minimal flooding and no water being observed in many of the wells on the southern half of the site.

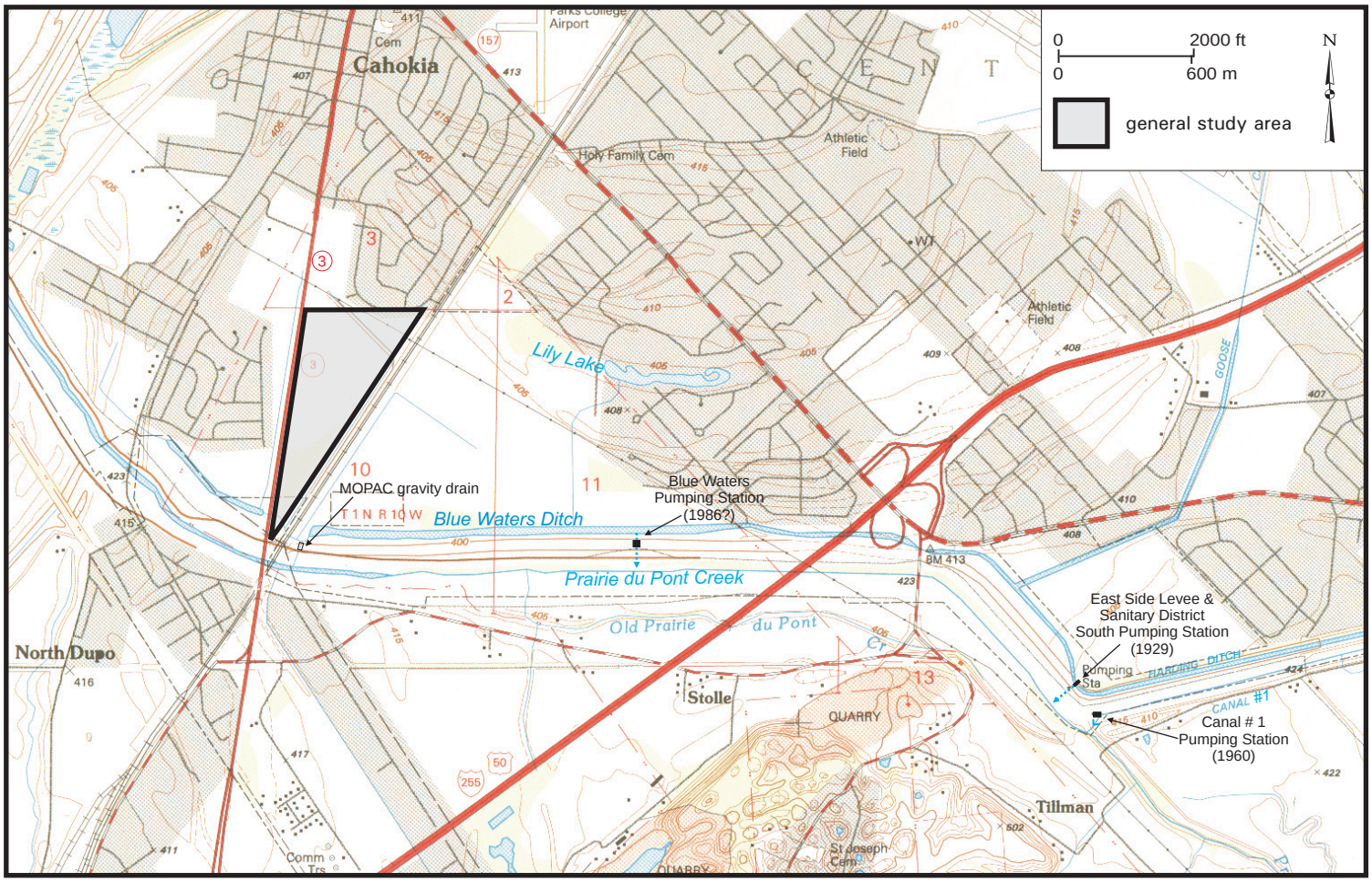
PLANNED FUTURE ACTIVITIES

- ISGS will remove several wells on the southern portion of the site.
- Monitoring will continue until no longer required by IDOT.

Tiernan Property (Cahokia) Potential Wetland Compensation Site
(FAP 999)

General Study Area and Vicinity

from the USGS Topographic Series, Cahokia, IL 7.5-minute Quadrangle (USGS 1993)
contour interval is 10 feet

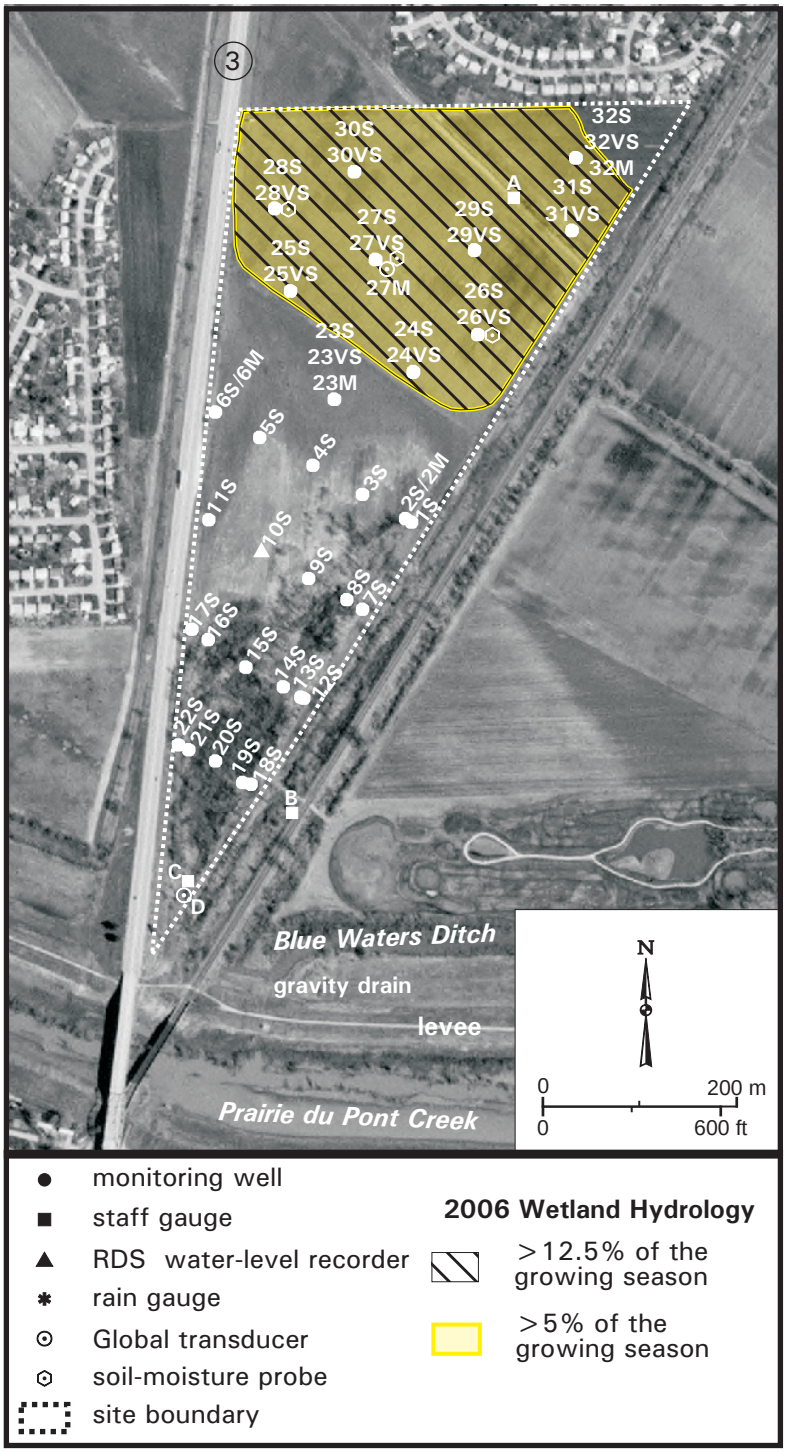


Former Tiernan Property, New River Crossing
Potential Wetland Compensation Site
(FAP 999)

Estimated Areal Extent of 2006 Wetland Hydrology

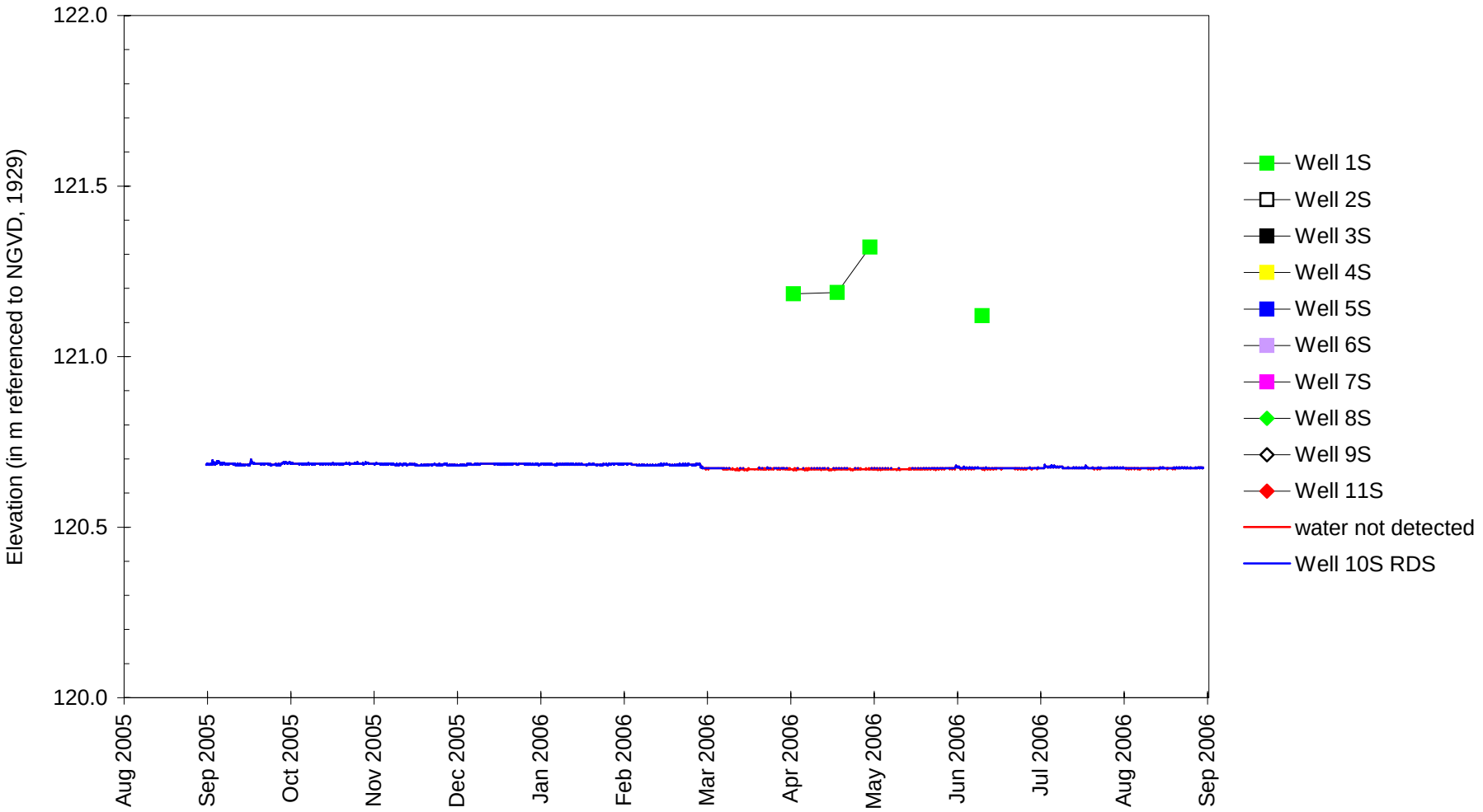
based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Cahokia SW quarter quadrangle
produced from 4/2/98 aerial photography (ISGS 2000)

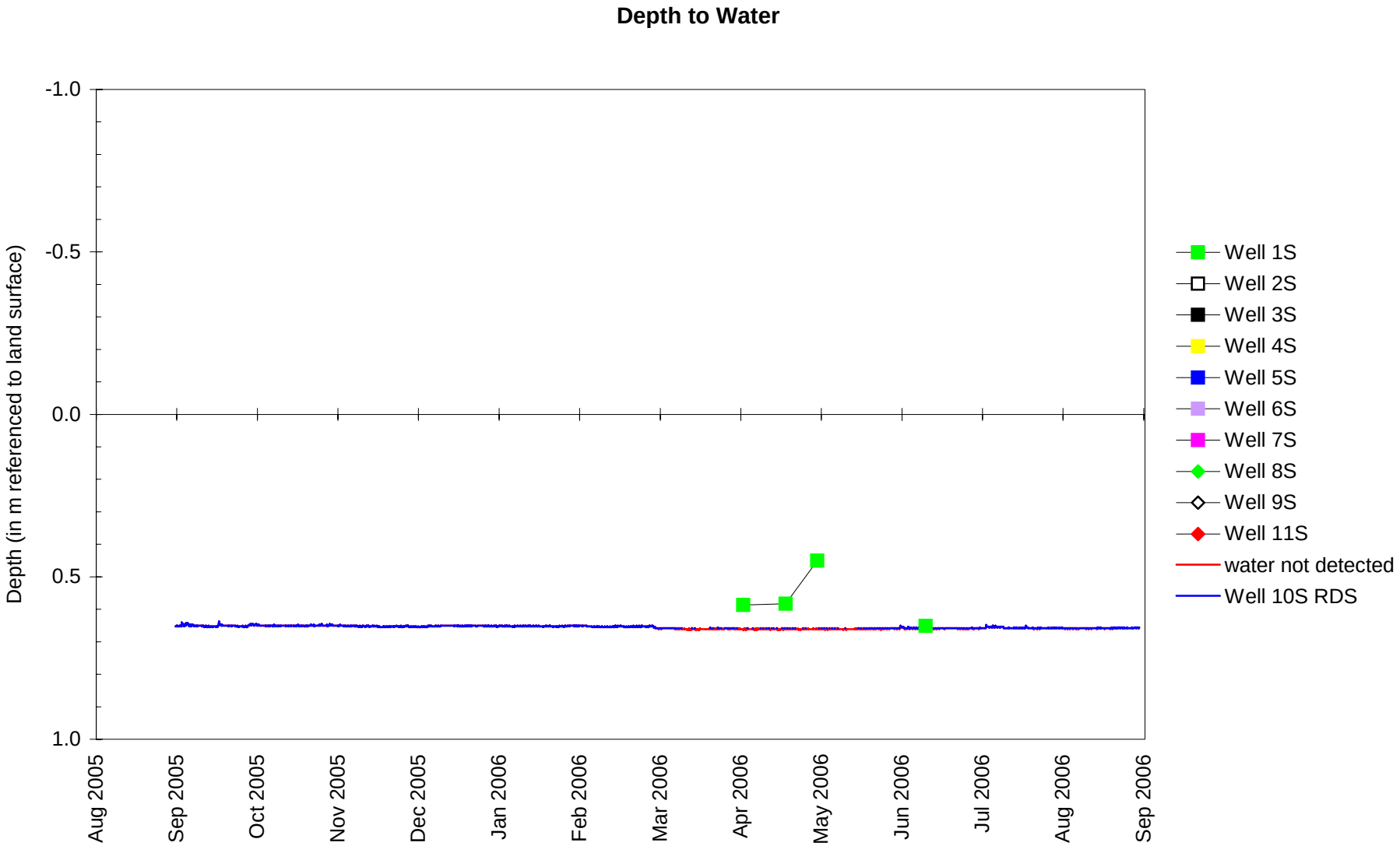


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations

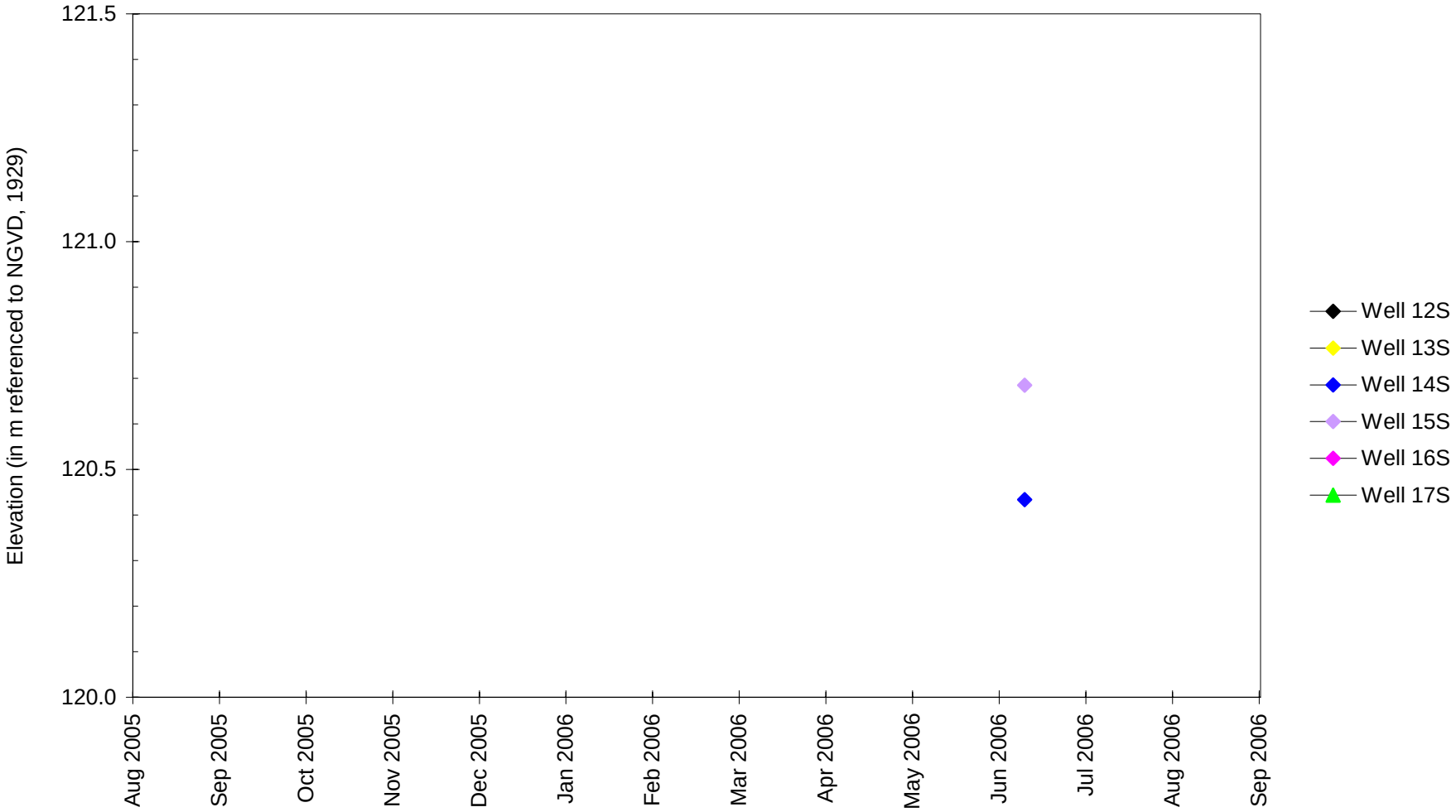


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006



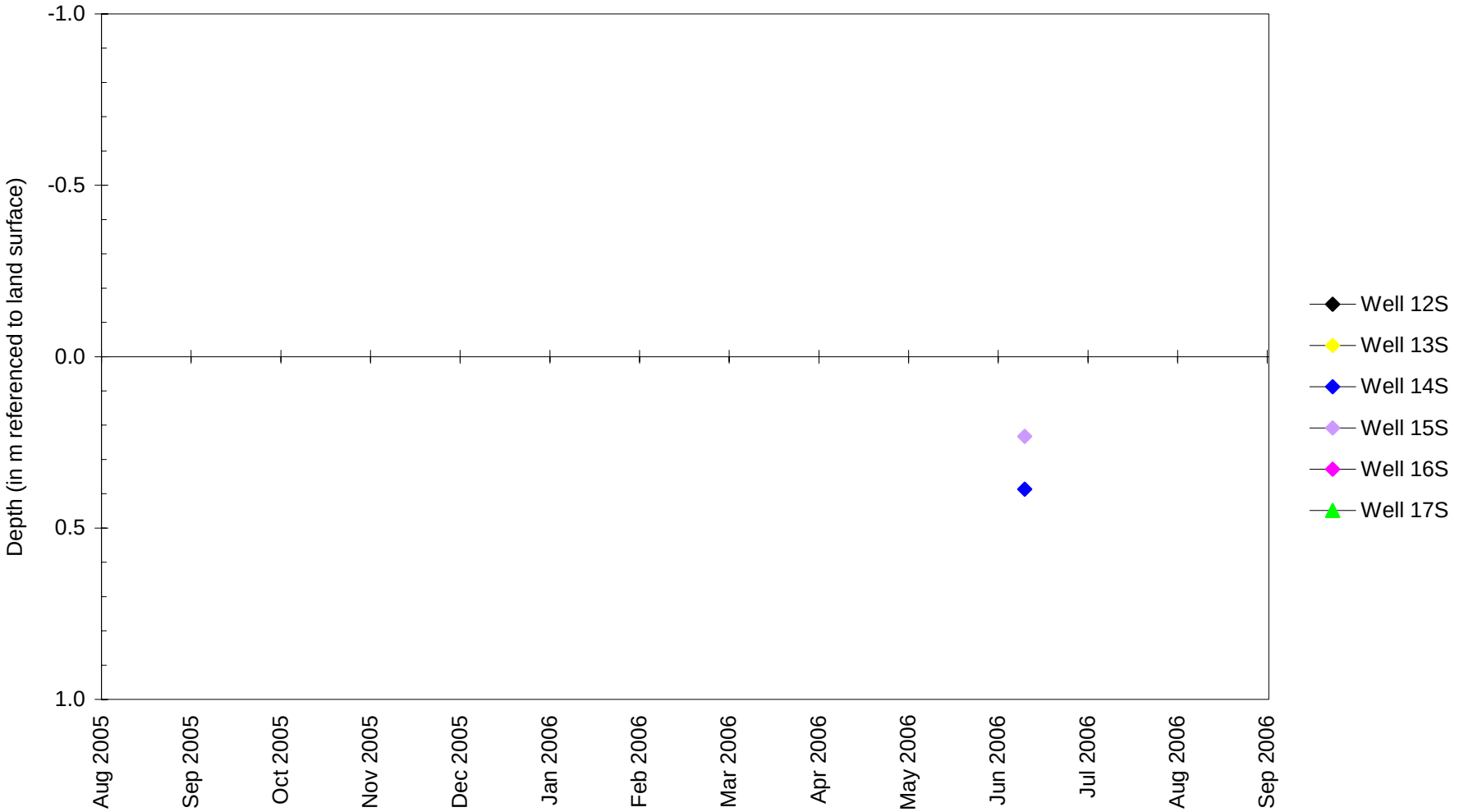
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations



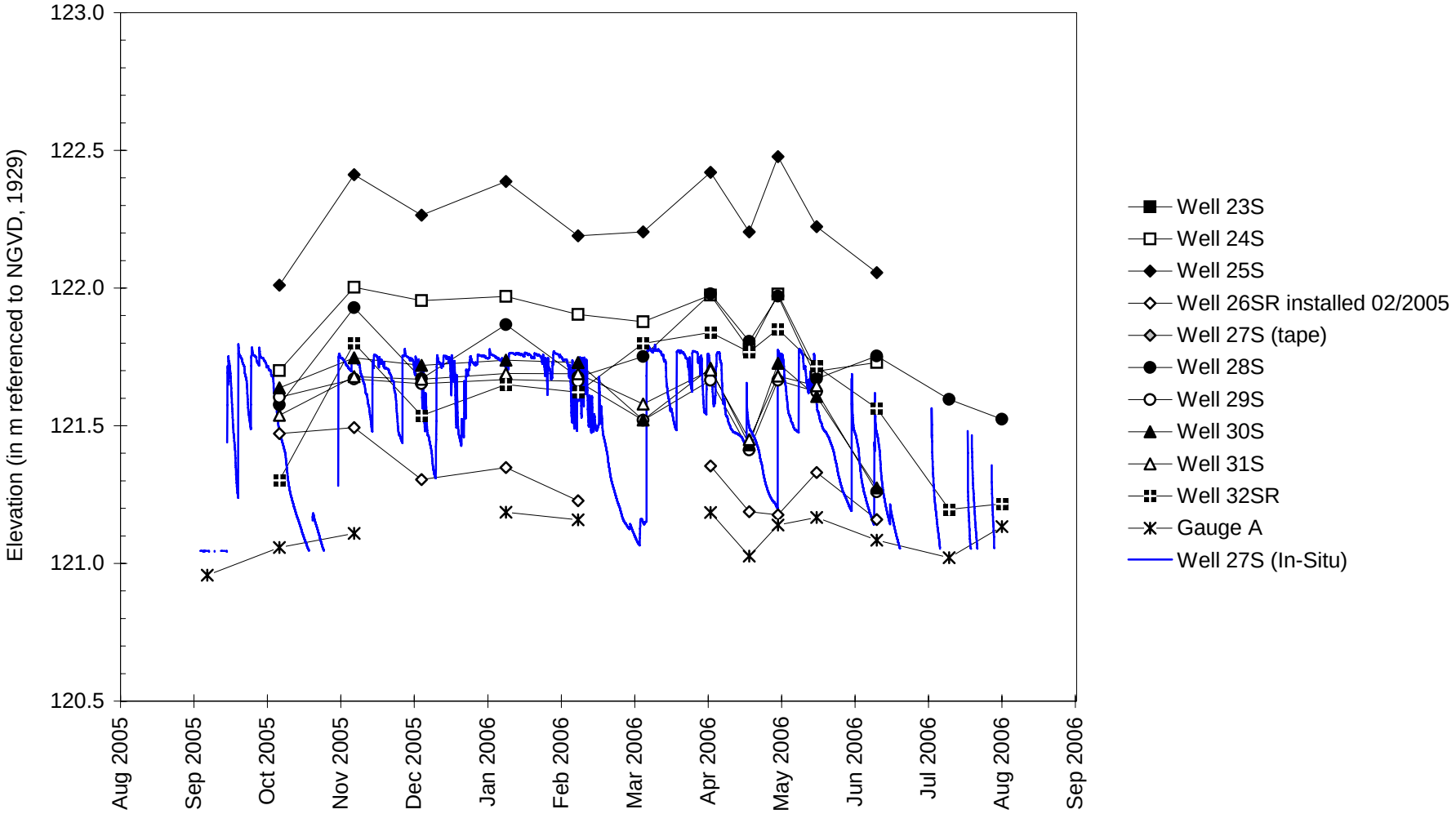
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water

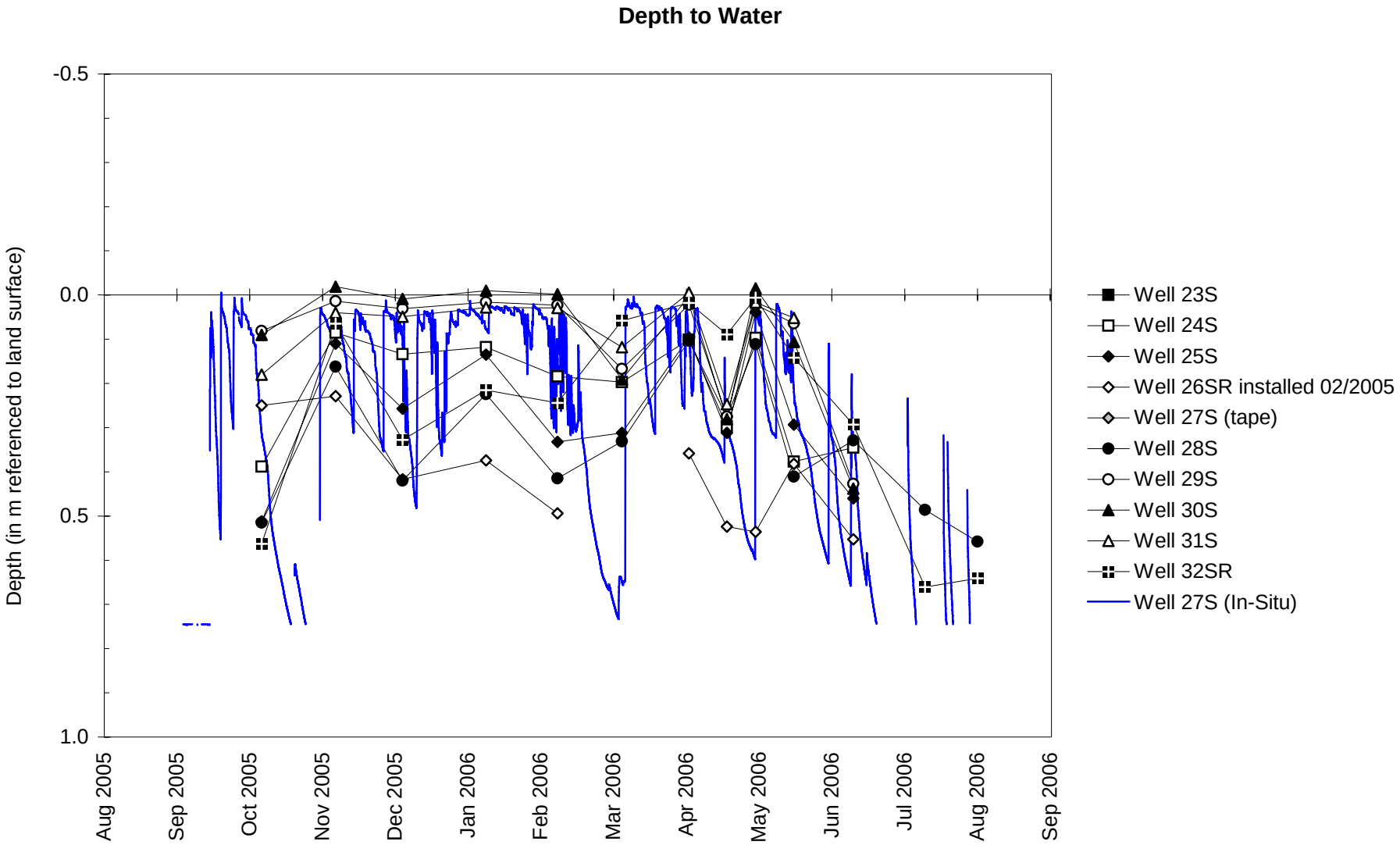


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations

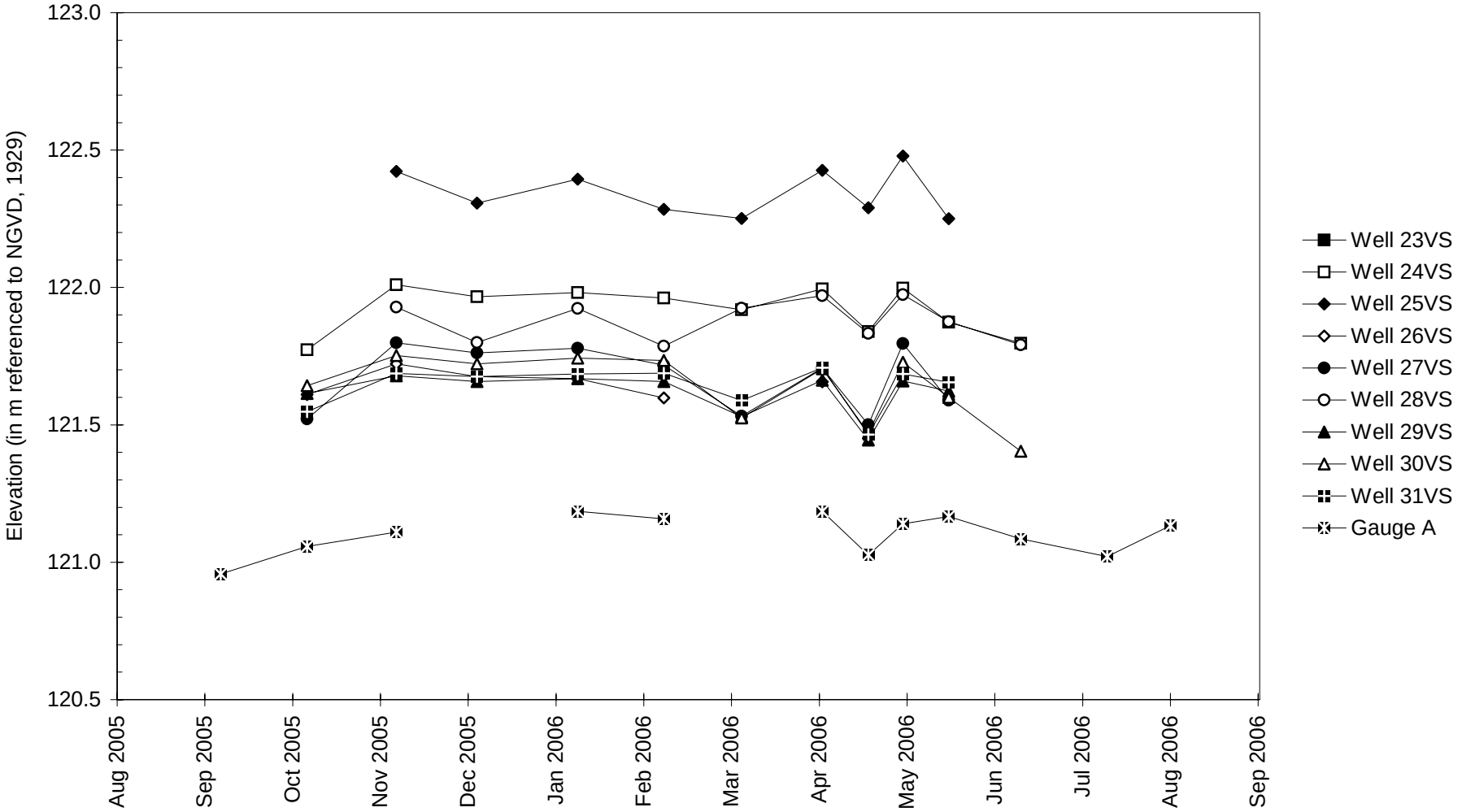


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

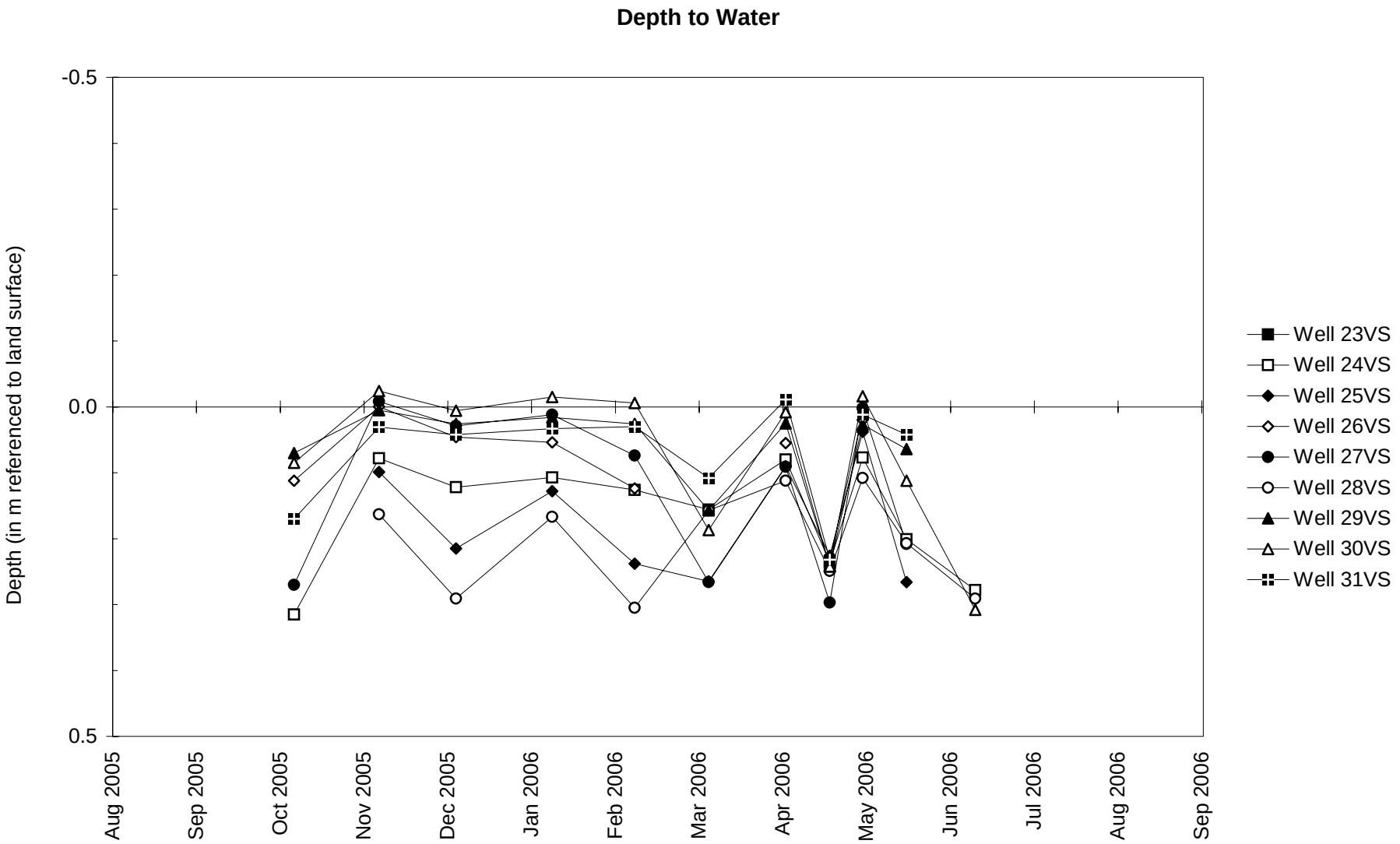


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations



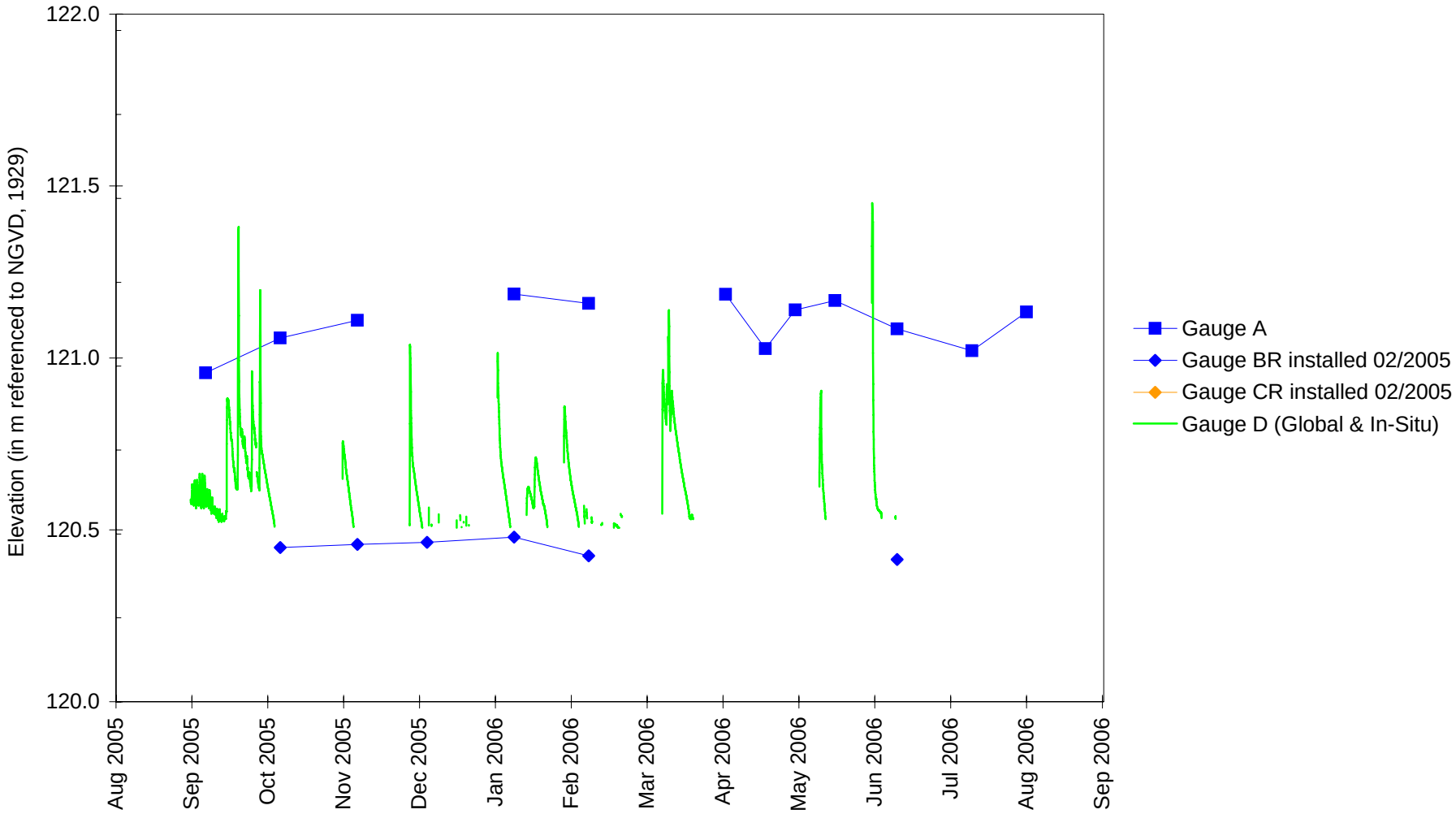
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006



Former Tiernan Property, New River Crossing Potential Wetland Compensation Site

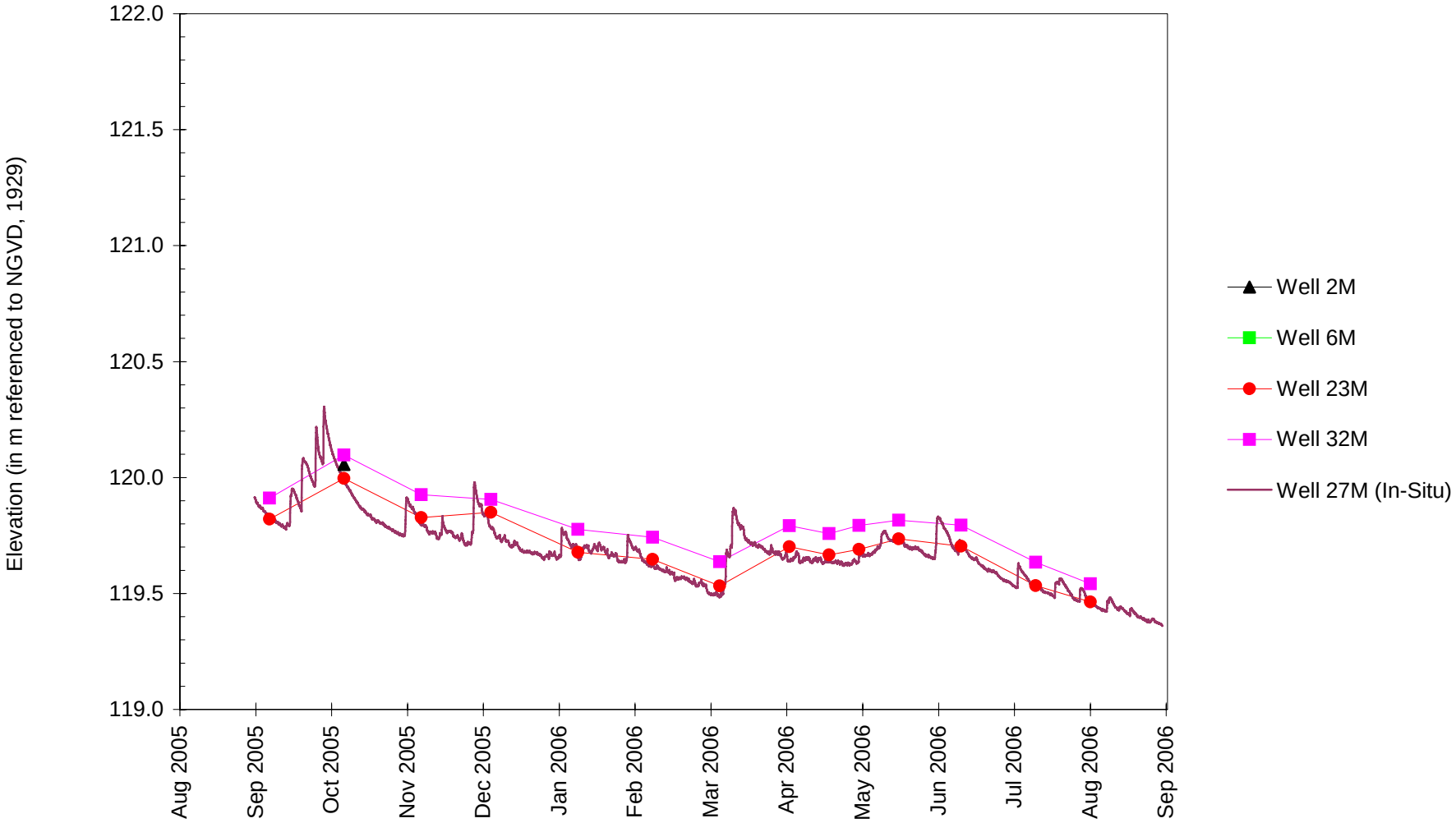
September 1, 2005 to September 1, 2006

Water-Level Elevations



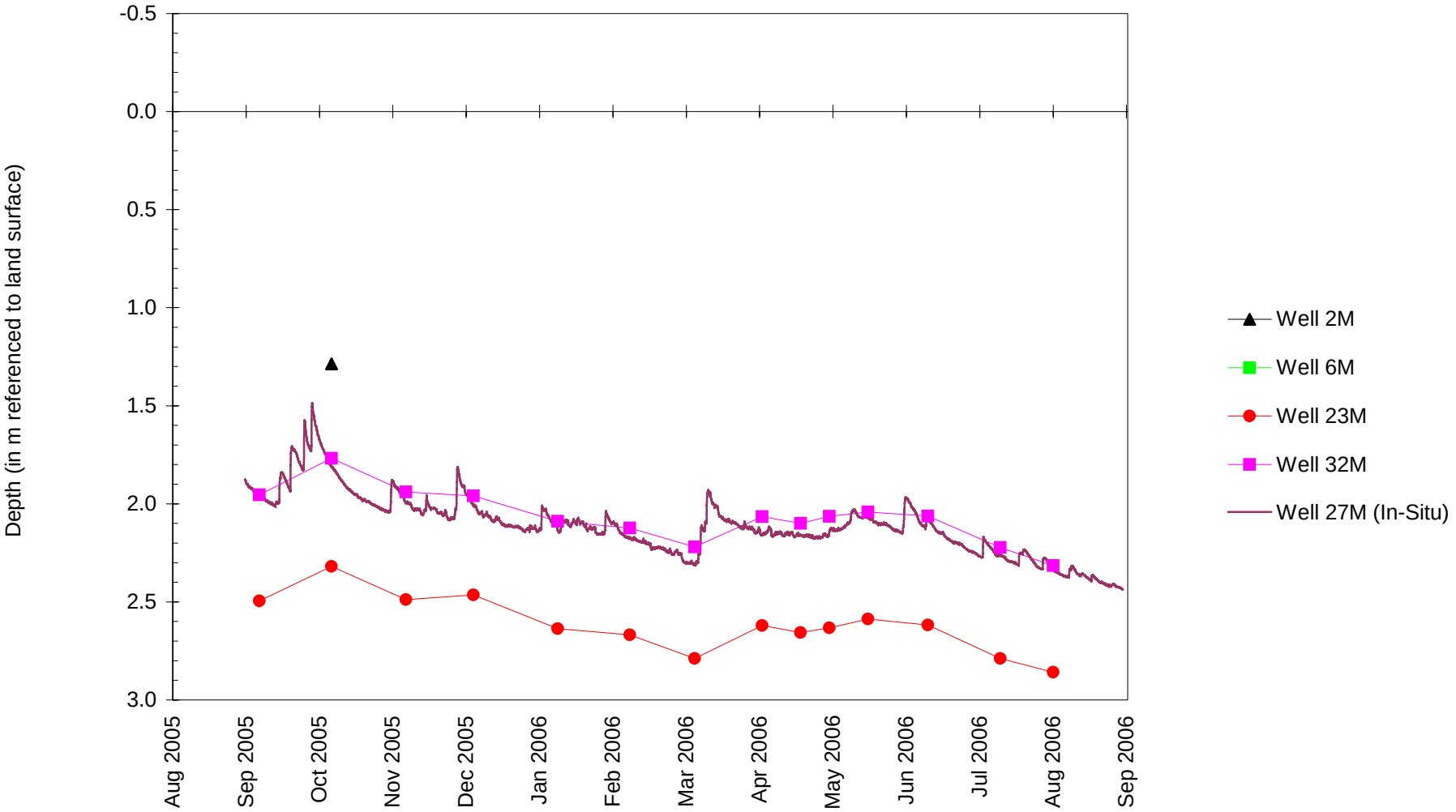
Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations

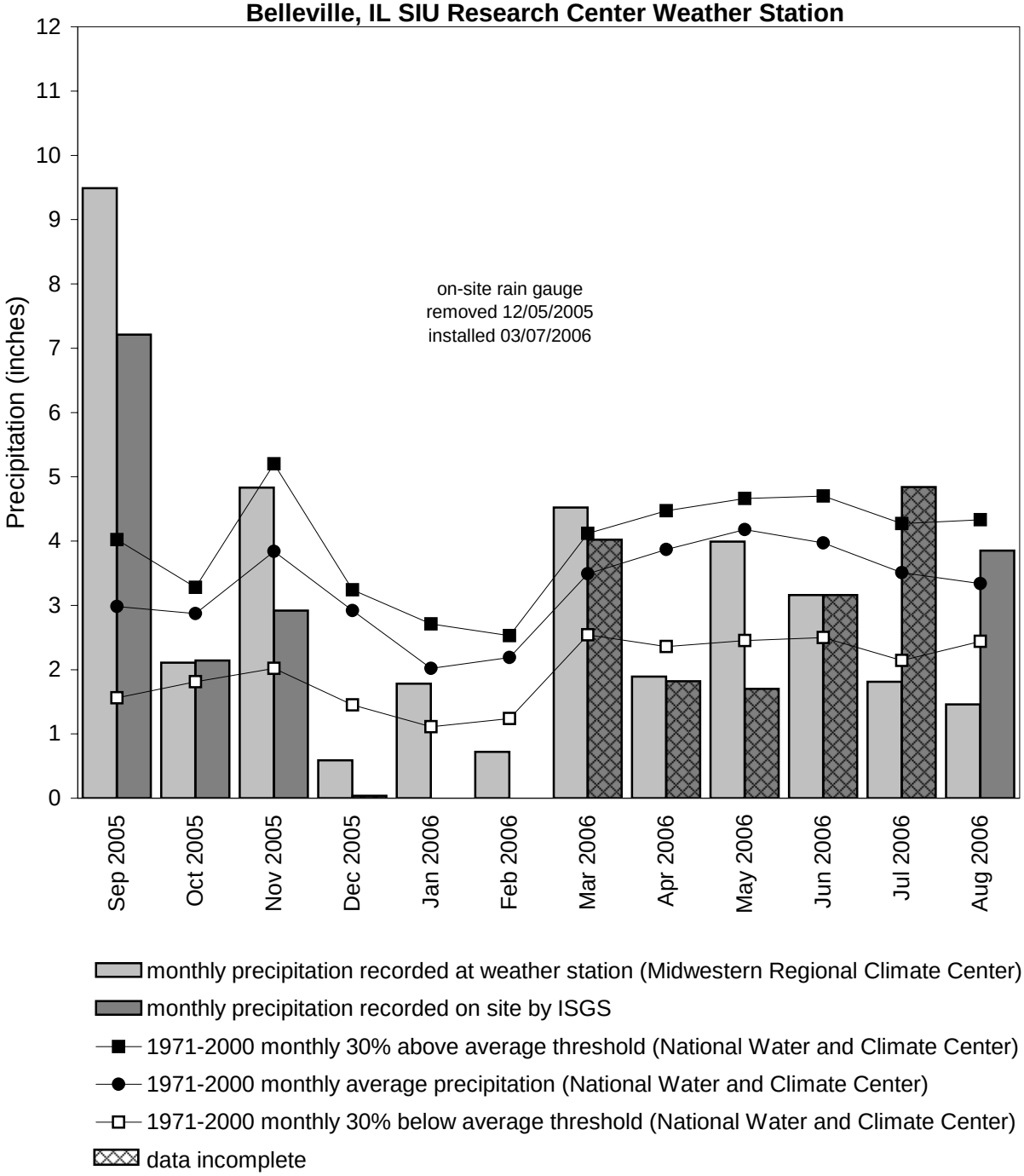


Former Tiernan Property, New River Crossing Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water



Former Tiernan Property, New River Crossing
Potential Wetland Compensation Site
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Belleville, IL SIU Research Center Weather Station



Graph last updated October 13, 2006

BUCKHART **ISGS #58**
WETLAND COMPENSATION SITE
FAS 1637
Sangamon County, near Buckhart, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: Keith W. Carr

SITE HISTORY

- 1996: Young Road was realigned and a new bridge was constructed over the Sangamon River. Construction of wetland mitigation areas was subsequently completed.

- April 2004: ISGS was tasked to conduct hydrologic monitoring at the site.

- May–August 2004: ISGS installed a number of instruments at the site.

- Spring 2006: Young Road was raised by 0.6 m (2 ft) immediately north of the site. The ISGS will monitor the site for any changes in hydrology that might result from the alteration of Young Road.

WETLAND HYDROLOGY CALCULATION FOR 2006

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2006 growing season is 2.2 ha (5.4 ac) out of a total compensation area of 2.3 ha (5.8 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2006 growing season is 0.6 ha (1.4 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Springfield, Illinois, is April 6 and the season lasts 205 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.

- Total precipitation at the nearby Abraham Lincoln Capital Airport Weather Station in Springfield, Illinois, was 86% of normal for the period from September 2005 through August 2006. Precipitation at this station was below normal in December 2005, and also in February, May, June, July, and August 2006. Precipitation amounts were near or above normal for the remaining months of the monitoring period.

- In 2006, water levels in all wells (1SR, 1VS, 2SR, 3S, 4S, 5S, 6S, 7S, and 8S) satisfied wetland hydrology criteria for greater than 5% of the growing season. In addition, water levels in wells 7S and 8S satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- In 2006, surface-water data logger Gauge A (In-Situ), located within a closed depression in Mitigation Area 2, recorded inundation to a depth of 164.4 m (539.3 ft) for greater than 5% of the growing season. Gauge A also recorded inundation to a depth of 163.9 m (537.6 ft) for greater than 12.5% of the growing season. Inundation shown by Gauges B, C, and D is not included in this analysis, because they are located outside of the mitigation areas.

- Above-normal precipitation in April 2006 contributed to over-bank flooding from the Sangamon River which occurred at the site beginning on April 6. The areas that met wetland hydrology criteria for the 2006 growing season did so as a result of this flood event. Two additional instances of over-bank flooding from the Sangamon River were recorded at the site in March and July 2006.

PLANNED FUTURE ACTIVITIES

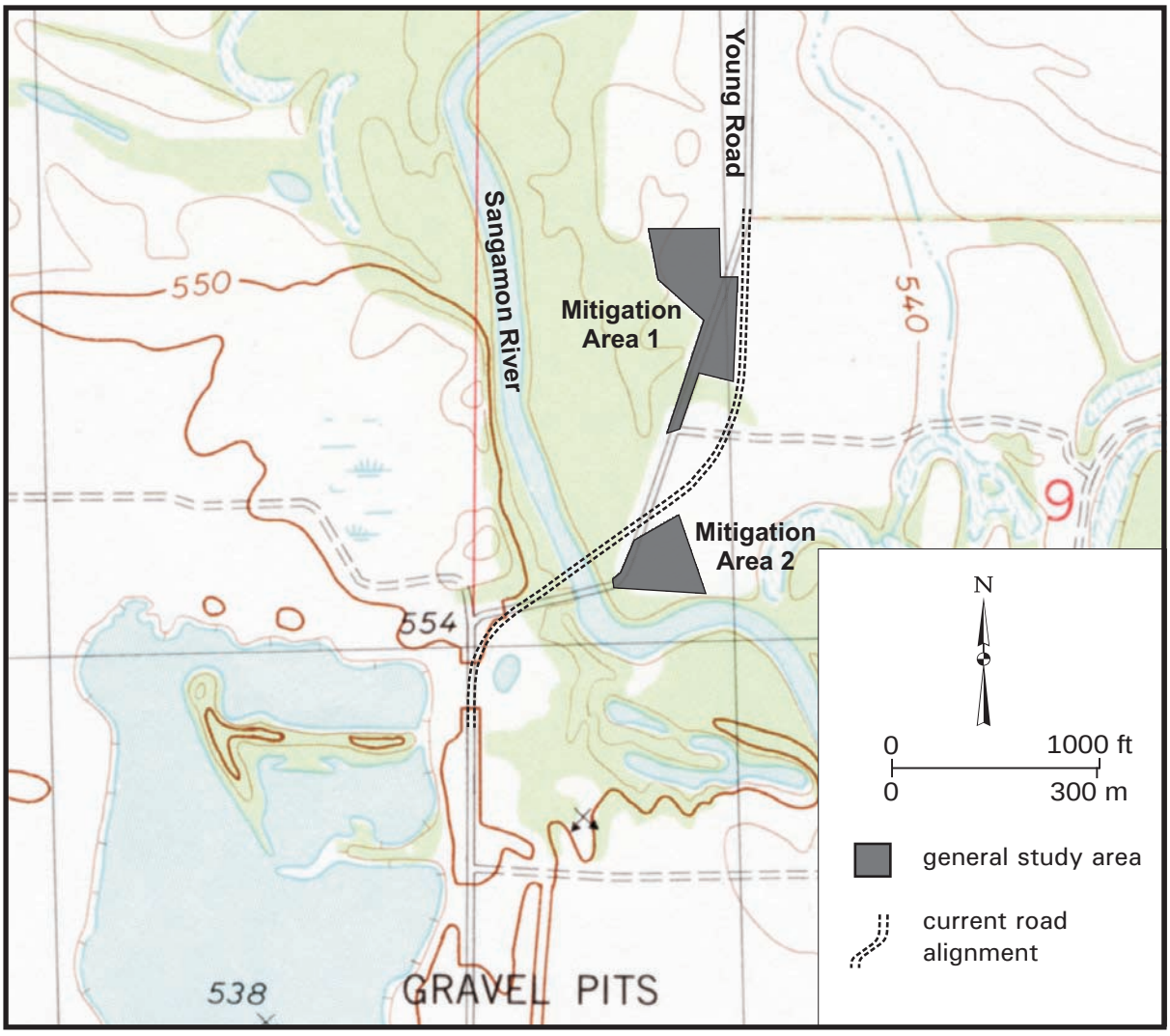
- Monitoring will continue until no longer required by IDOT.

Buckhart Wetland Compensation Site

[FAS 1637 (TR 478)]

General Study Area and Vicinity

from the USGS Topographic Series, Mechanicsburg, IL 7.5-minute Quadrangle (USGS 1982)
contour interval is 10 feet



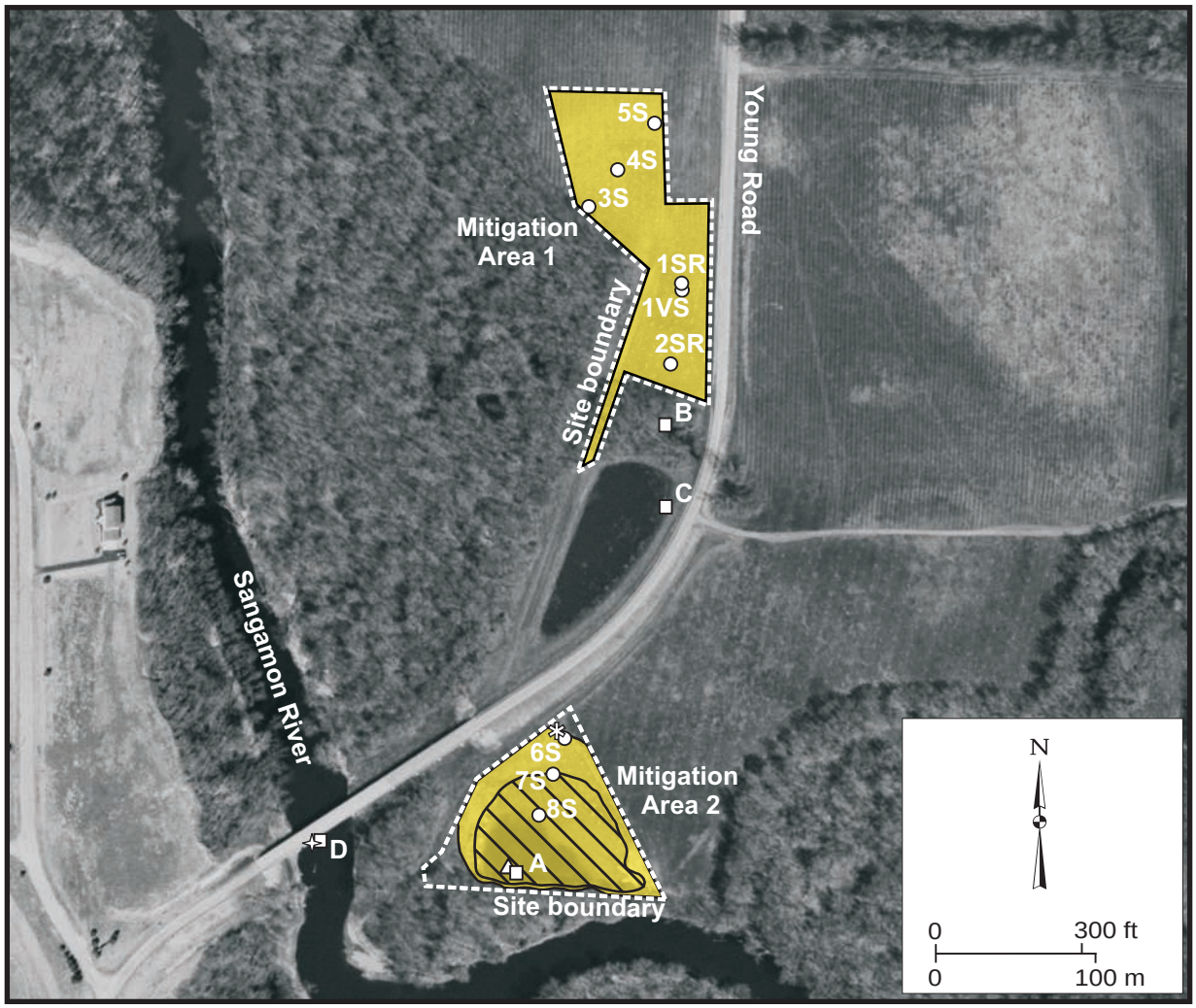
Buckhart Wetland Compensation Site

[FAS 1637 (TR 478)]

Estimated Areal Extent of 2006 Wetland Hydrology

Based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotographs, Mechanicsburg SE and SW quarter quadrangles (ISGS 2005)



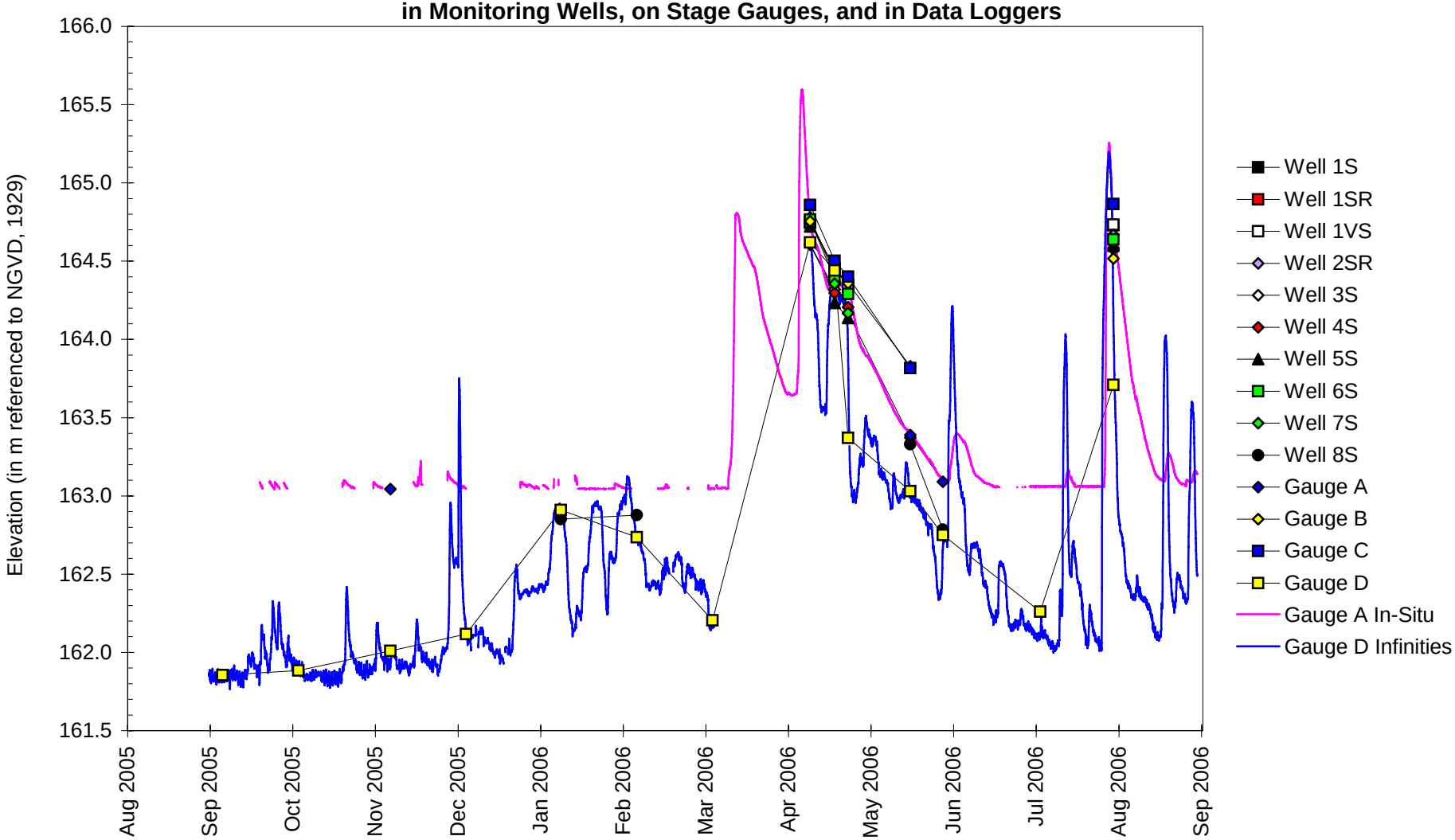
2006 Wetland Hydrology

- >12.5% of the growing season
- >5% of the growing season

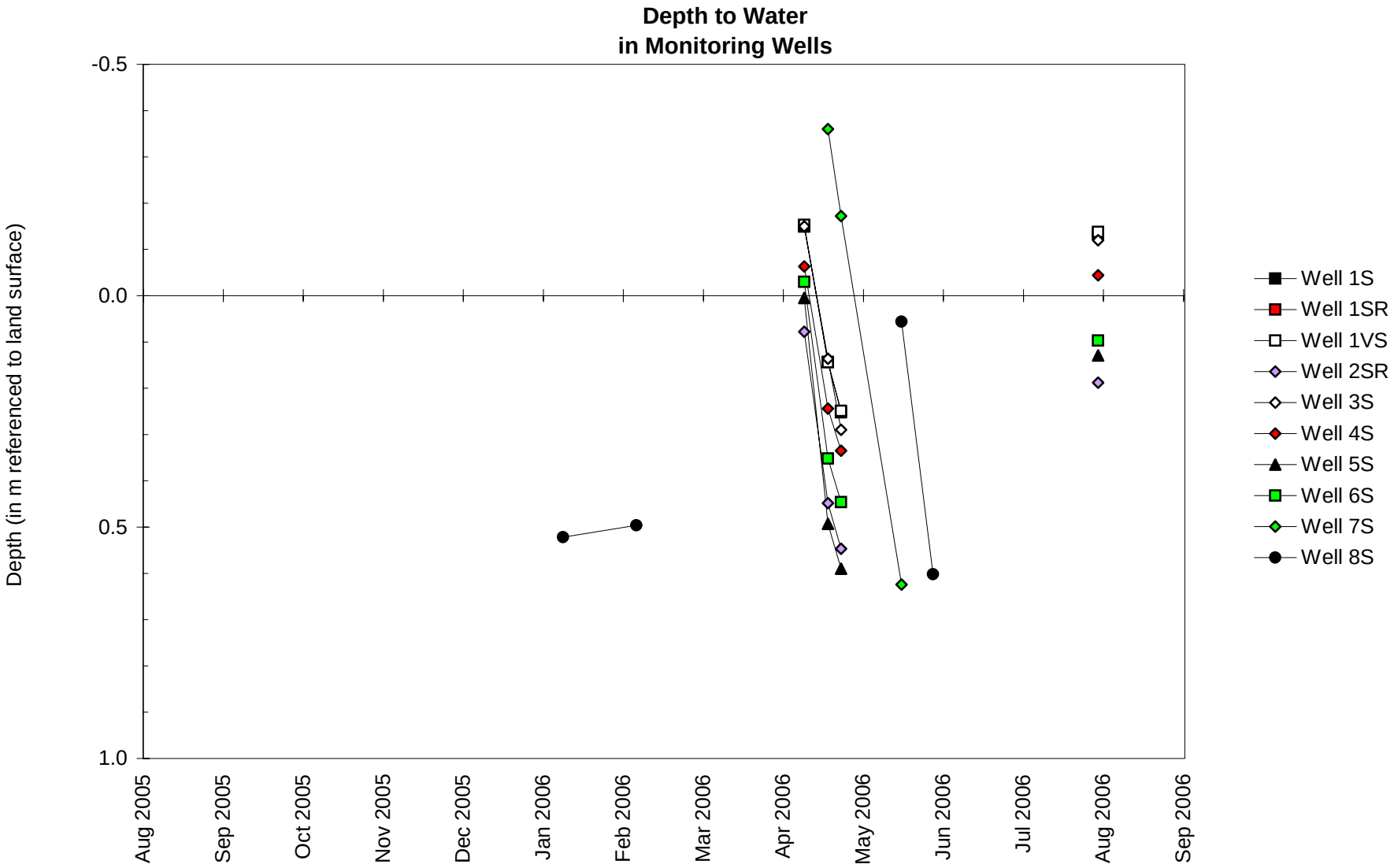
- ○ monitoring well
- □ staff gauge
- △ In-Situ data logger
- ❄ rain gauge
- ✧ Sonic data logger

Buckhart Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Monitoring Wells, on Stage Gauges, and in Data Loggers

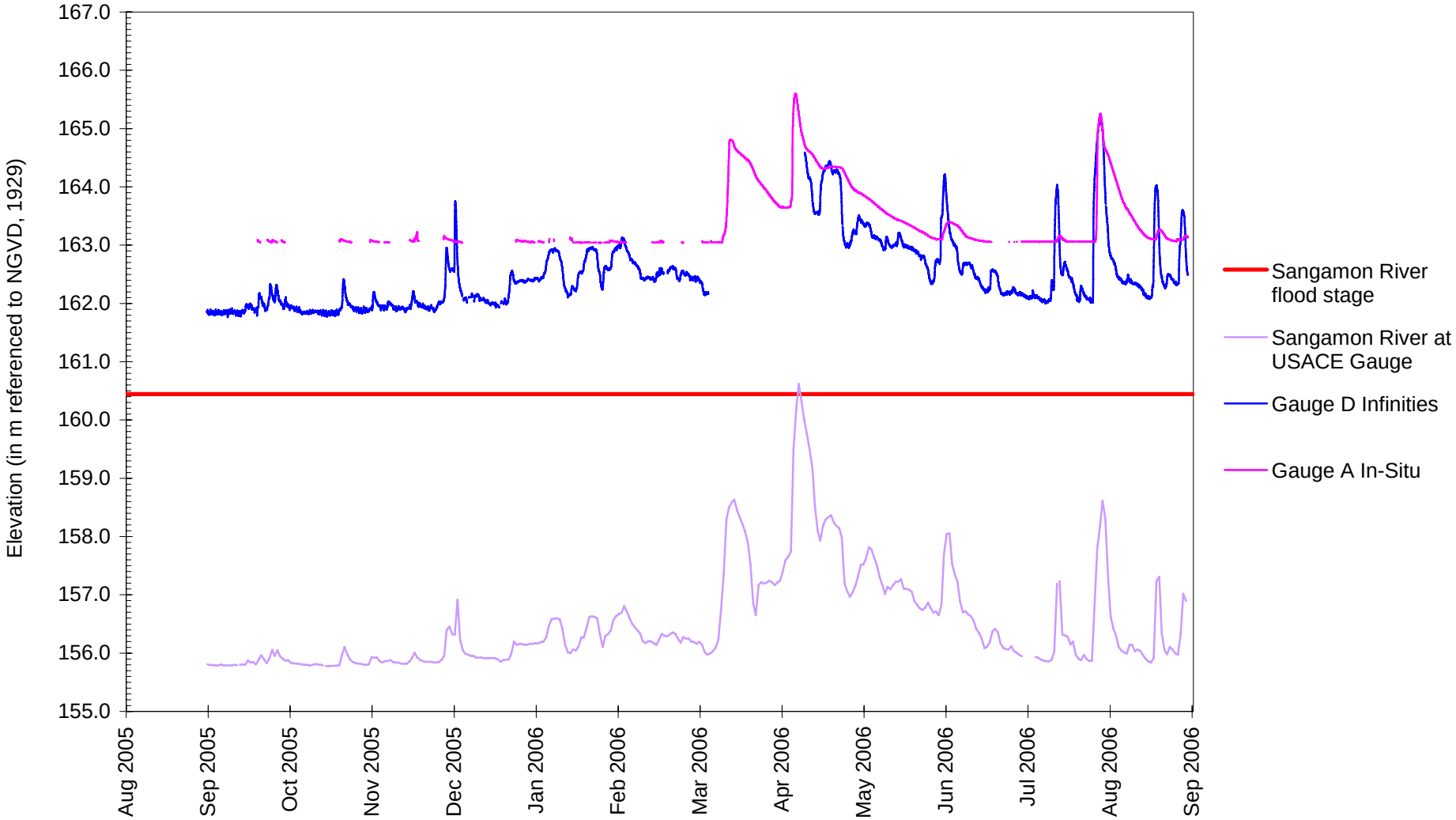


Buckhart Wetland Compensation Site
September 1, 2005 to September 1, 2006



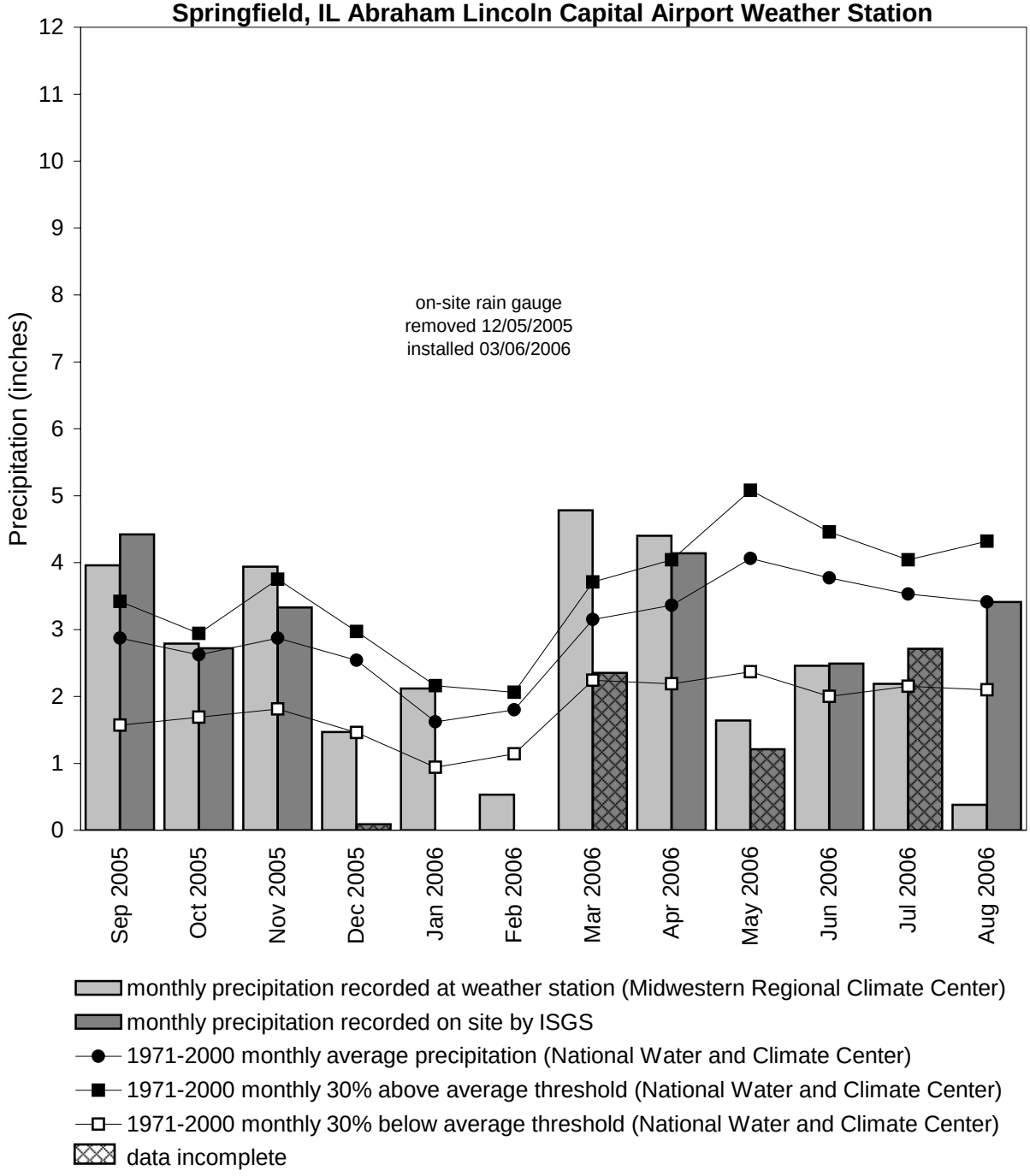
Buckhart Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations



Buckhart Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Springfield, IL Abraham Lincoln Capital Airport Weather Station



Graph last updated October 13, 2006

APPLE CREEK NEAR BELLTOWN **ISGS #62**
POTENTIAL WETLAND COMPENSATION SITE
FAP 310
Sequence #32
Greene County, Illinois
Primary Project Manager: Bonnie J. R. Sperling
Secondary Project Manager: not assigned

SITE HISTORY

- October 2001: ISGS submitted an Initial Site Evaluation report.
- December 2001: ISGS was tasked by IDOT to conduct a Level II hydrogeologic assessment of the site.
- April–August 2002: Eighteen shallow wells, two surface-water level loggers, two staff gauges and one rain gauge were installed on site.
- February 2004: A Level II hydrogeological characterization report was submitted to IDOT (ISGS Open-File Series 2004–05).
- March 2006: IDOT requested that site monitoring be terminated.
- June 2006: All instruments and data loggers were removed.

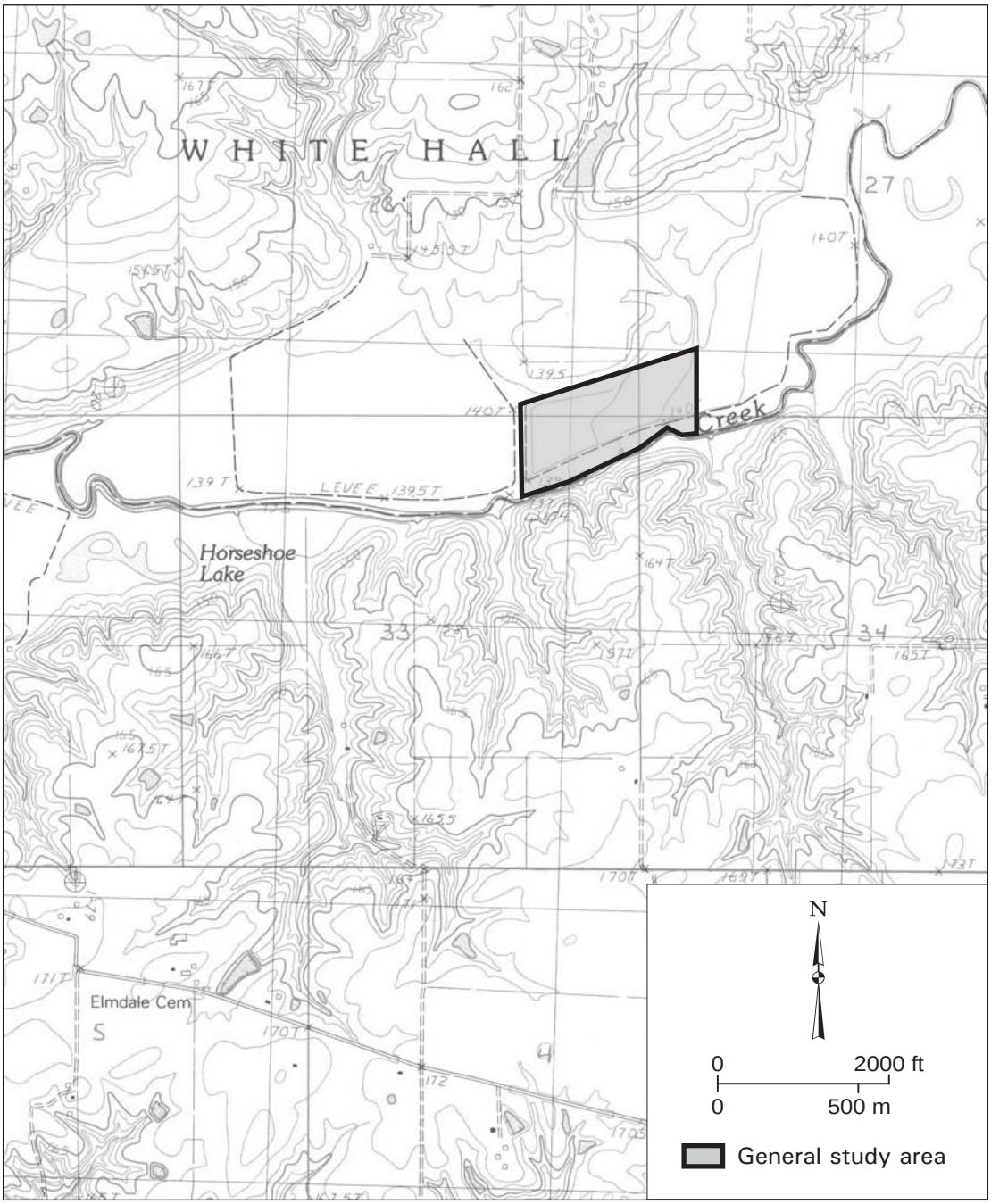
WETLAND HYDROLOGY CALCULATION FOR 2006

The total area of Apple Creek Potential Wetland Compensation Site is 21 ha (52 ac.). Because ground-water monitoring was terminated at this site in March 2006, an estimate of the area satisfying the criteria for wetland hydrology was not prepared for this report.

Apple Creek Potential Wetland Compensation Site
(US 67, FAP 310)

General Study Area and Vicinity

from the USGS Topographic Series, Carrollton, IL 7.5-minute Quadrangle (USGS 1983)
contour interval is 10 feet

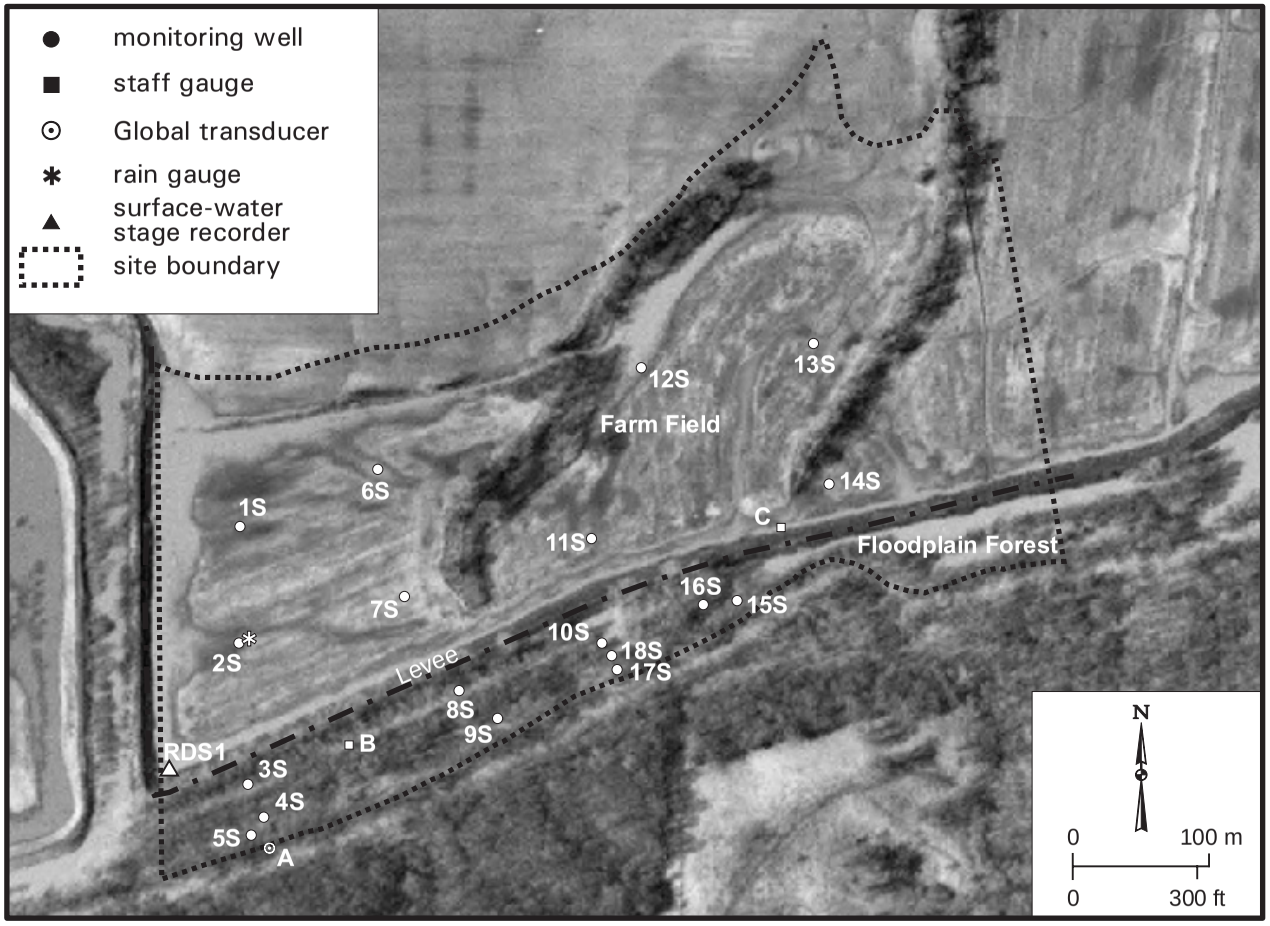


Apple Creek Potential Wetland Compensation Site

(US 67, FAP 310)

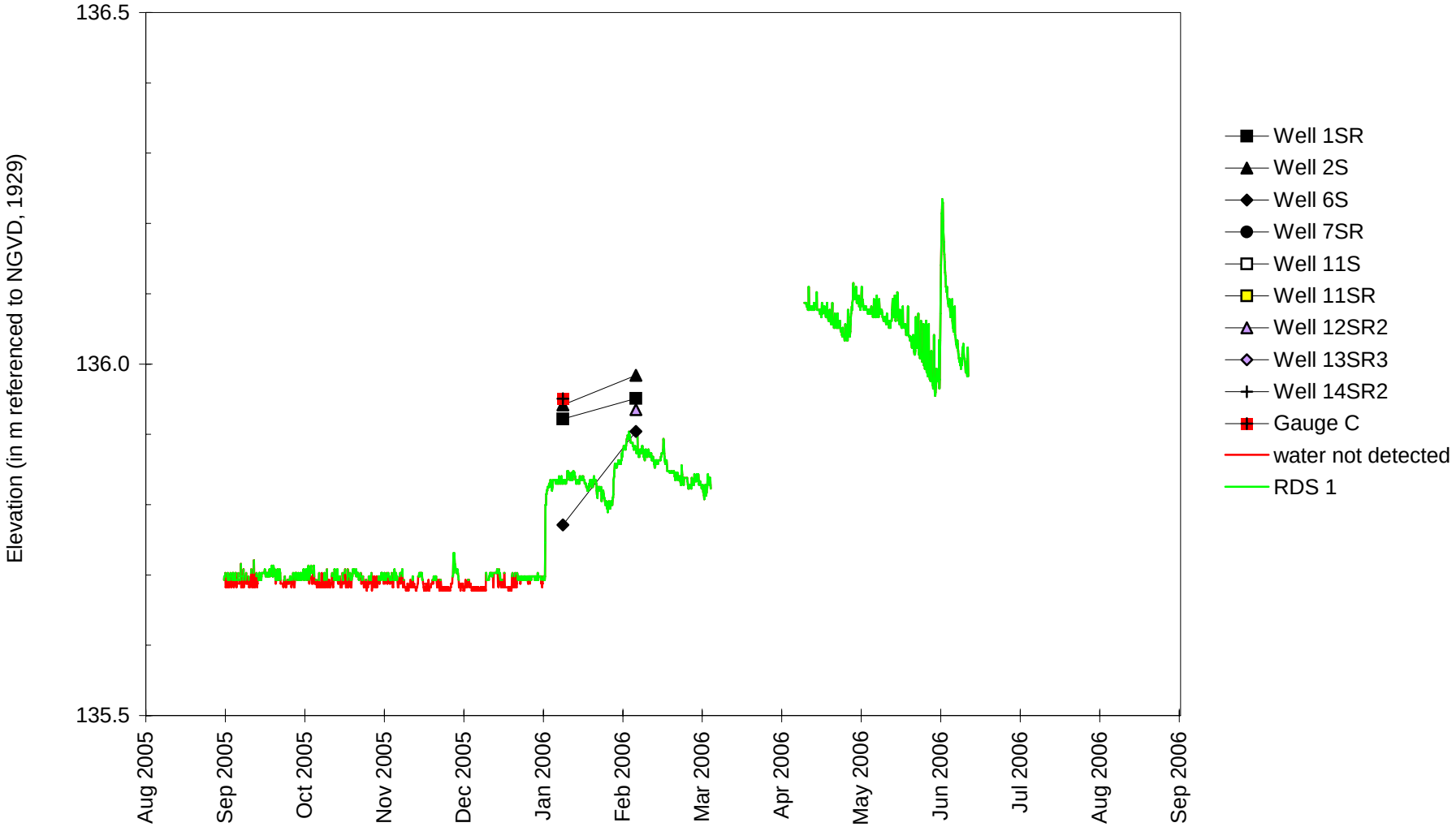
Location of ISGS Monitoring Instruments

Map based on USGS digital orthophotograph, Carrollton NE quarter quadrangle
produced from 4/5/1998 aerial photography (ISGS 2001)

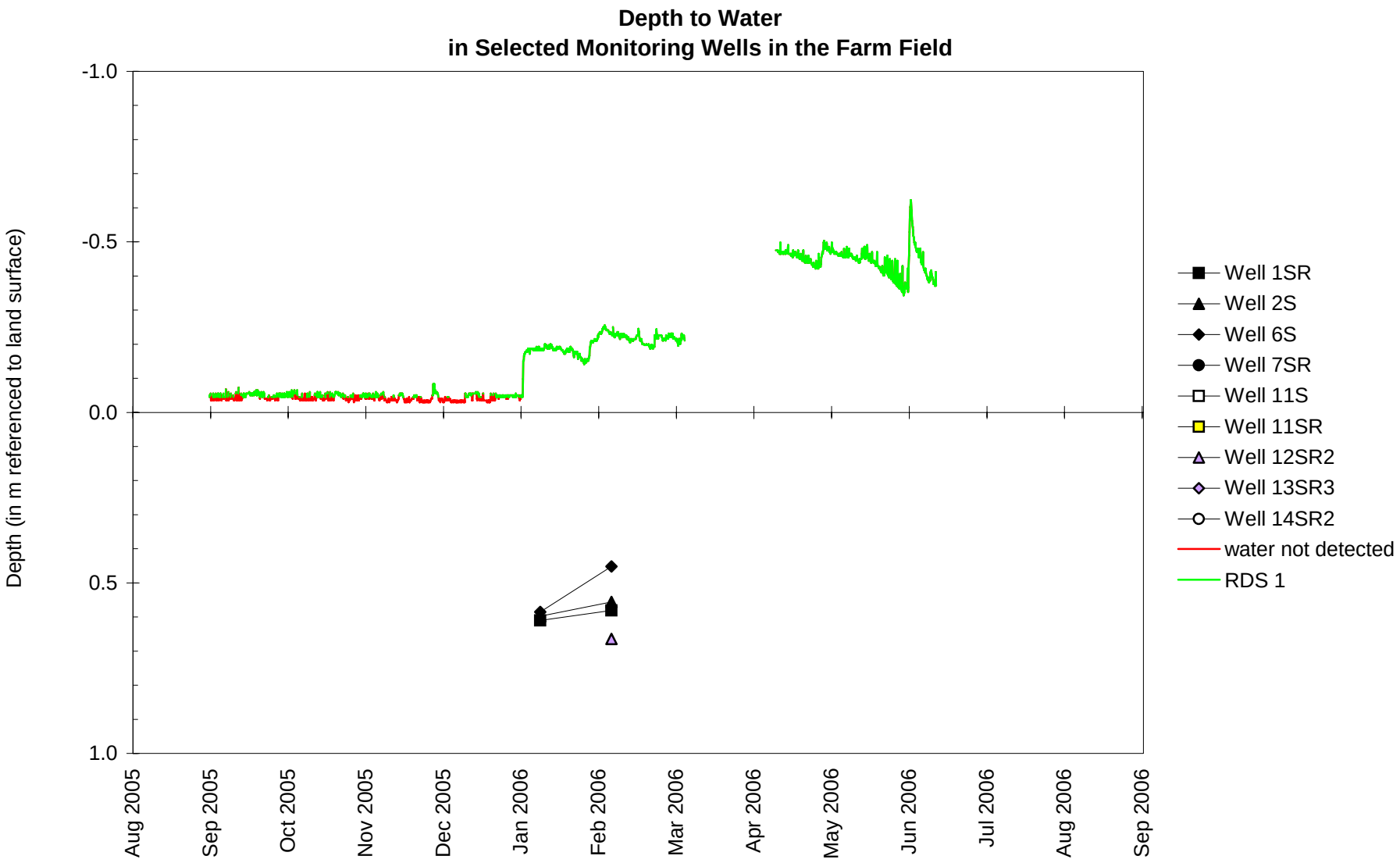


Apple Creek Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Selected Monitoring Wells in the Farm Field

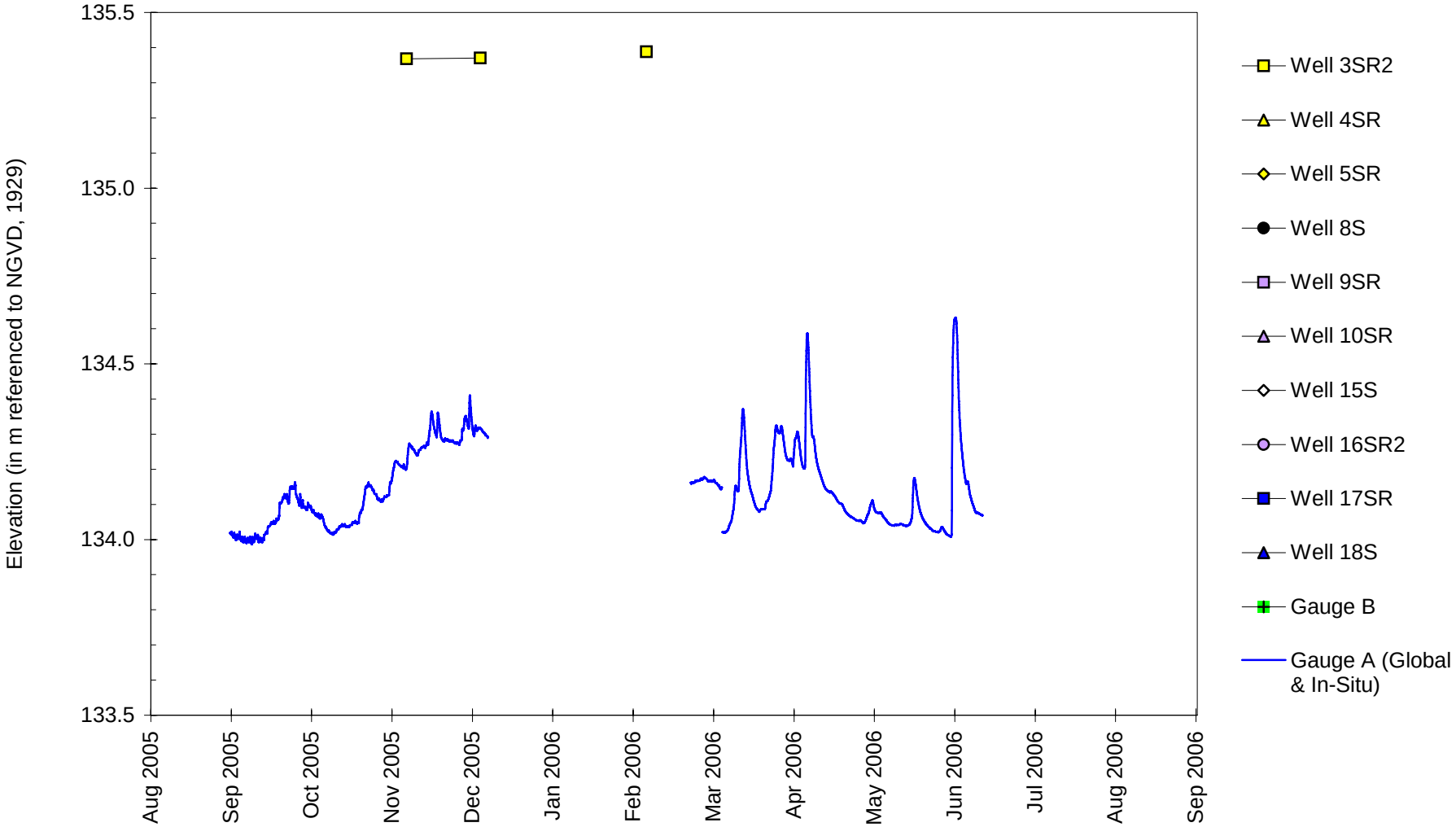


Apple Creek Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

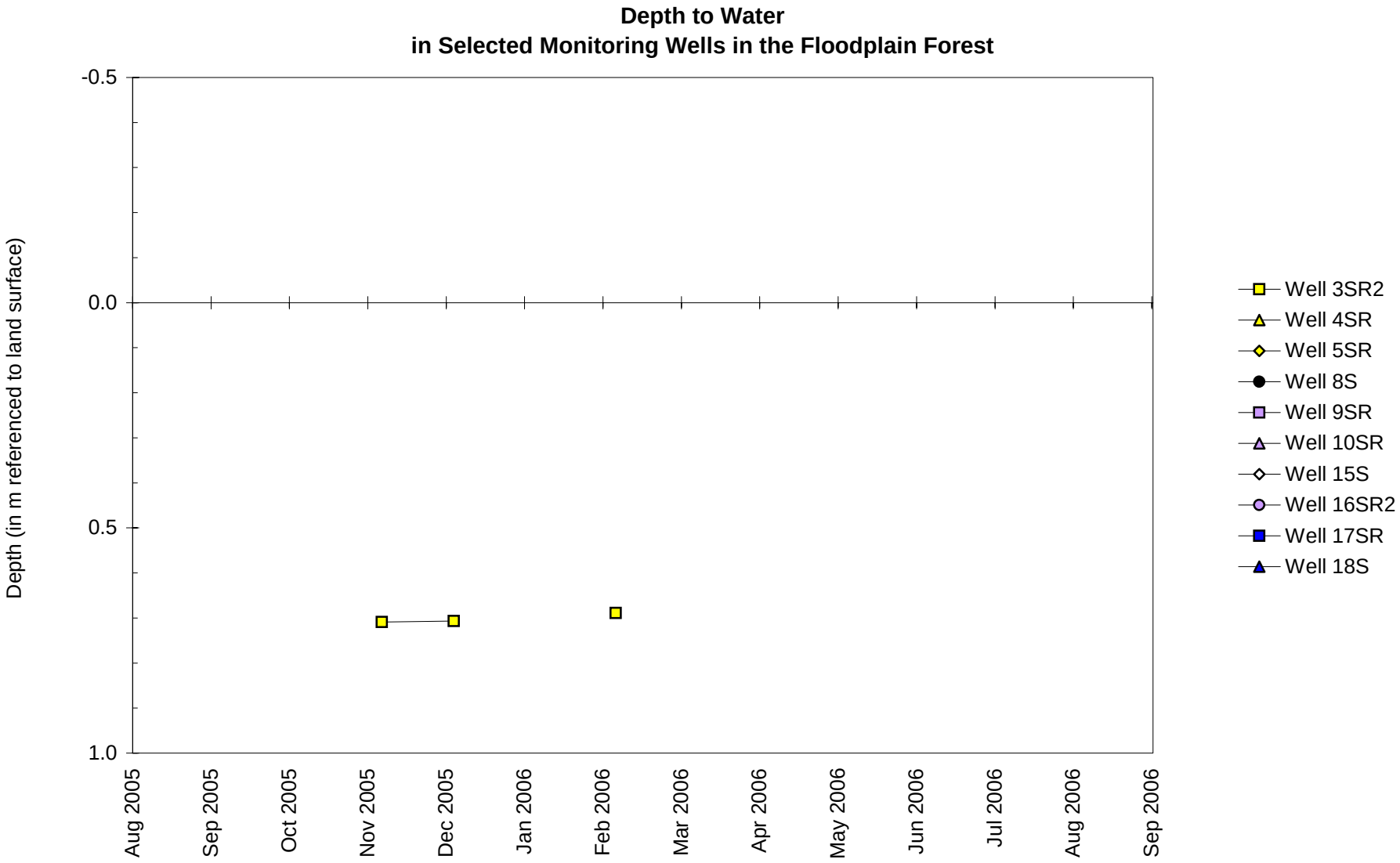


Apple Creek Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Selected Monitoring Wells in the Floodplain Forest

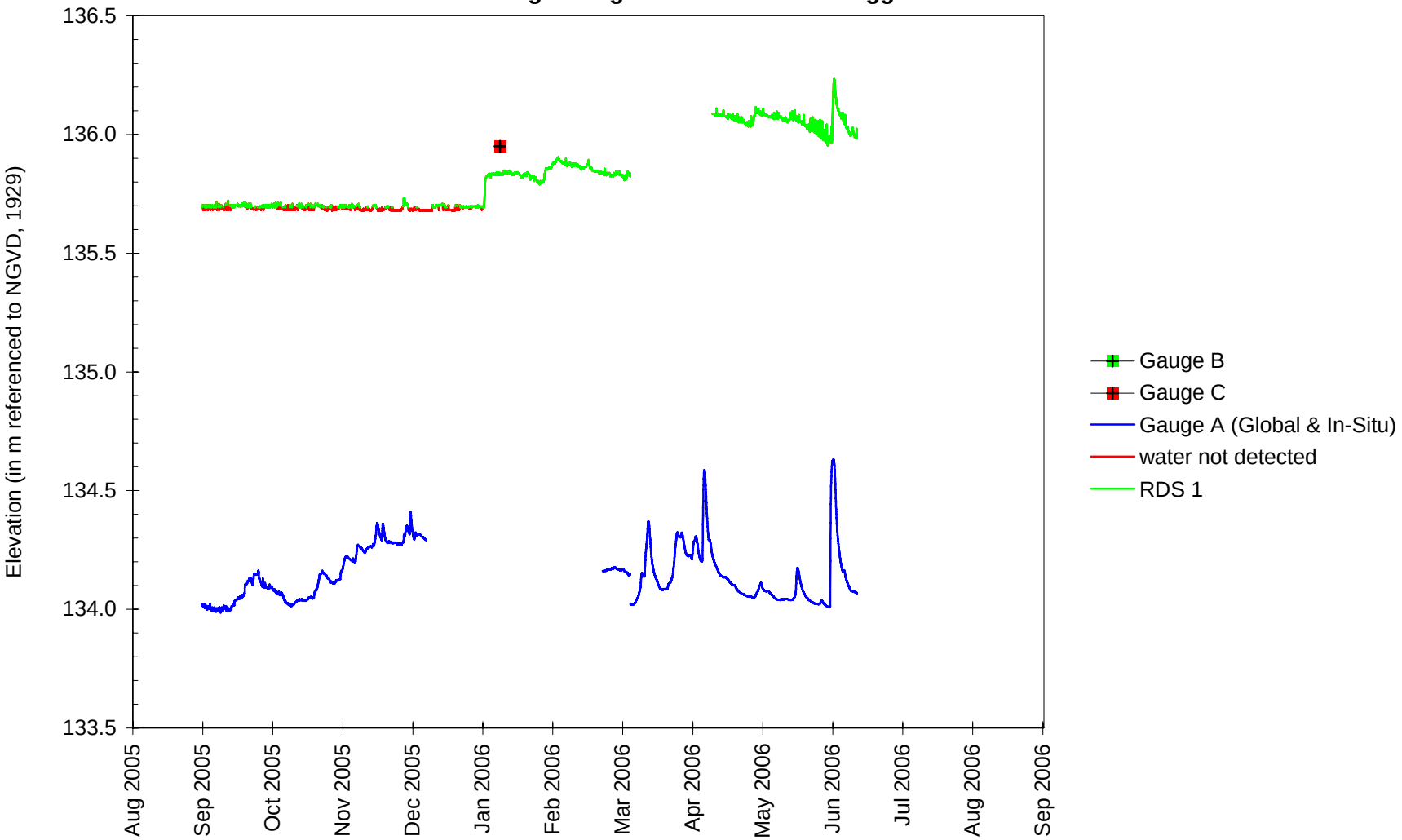


Apple Creek Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

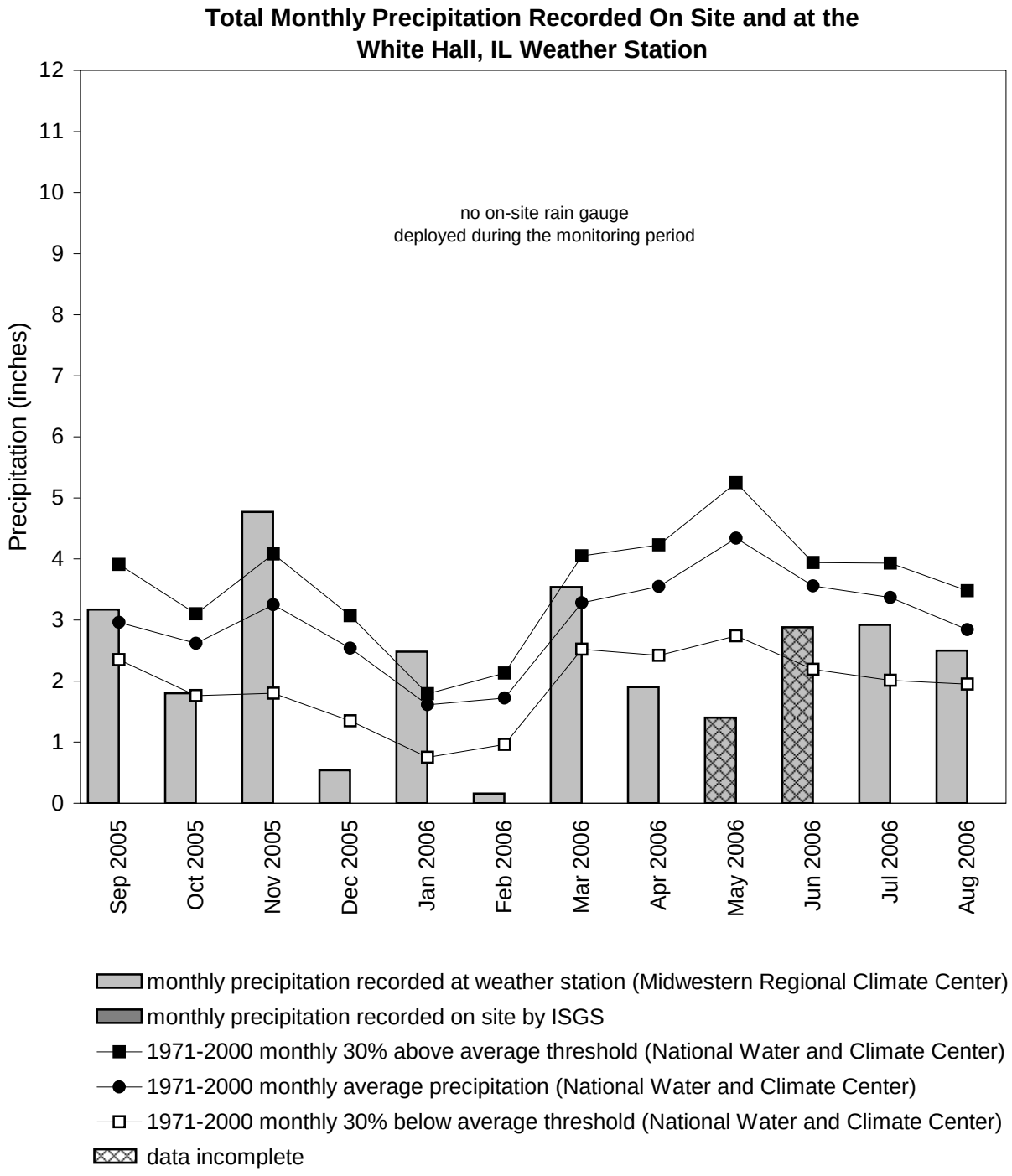


Apple Creek Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
on the Stage Gauges and at the Data Loggers



Apple Creek Potential Wetland Compensation Site
September 2005 through August 2006



Graph last updated October 19, 2006

HARRISBURG **ISGS #63**
POTENTIAL WETLAND COMPENSATION SITE
FAP 332
Saline County, near Harrisburg, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- April 2000: ISGS submitted an Initial Site Evaluation report identifying the site as having low–moderate potential for wetland restoration.

- December 2001: ISGS was tasked by IDOT to conduct a Level II hydrogeologic characterization of the site.

- March 2002: ISGS initiated monitoring activities at the site.

- April 2004: Level II hydrologic characterization report was submitted to IDOT (ISGS Open File Series 2004–07).

- May 2004: Construction at the wetland compensation site was completed.

- December 2005: ISGS was tasked by IDOT to monitor the site for performance standards as outlined in the wetland mitigation plan and post-construction water-level monitoring was initiated.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that 5.8 ha (14.4 ac) out of a total site area of 8.1 ha (20.0 ac) satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006, whereas 4.3 ha (10.6 ac) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Harrisburg, Illinois, is April 1 and the season lasts 211 days; 5% of the growing season is 11 days and 12.5% of the growing season is 26 days.

- Total precipitation for the period from September 2005 through August 2006 was 100% of normal. Drier than normal conditions prevailed in September, October, and December 2005 and in February, April through June, and August 2006. Precipitation amounts were at or above normal for November 2005 and for January, March, and July 2006.

- In 2006, all monitoring well locations satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, all well locations except 2S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

- The data logger RDS 1, located at the confluence of the drainage ditches at the east end of the site, indicated that surface-water inundation occurred below 111.07 m (364.40 ft) for greater than 5% of the growing season. Furthermore, inundation occurred for greater than 12.5% of the growing season below an elevation of 111.04 m (364.30 ft).

PLANNED FUTURE ACTIVITIES

- Monitoring will continue through 2009 or until no longer required by IDOT.

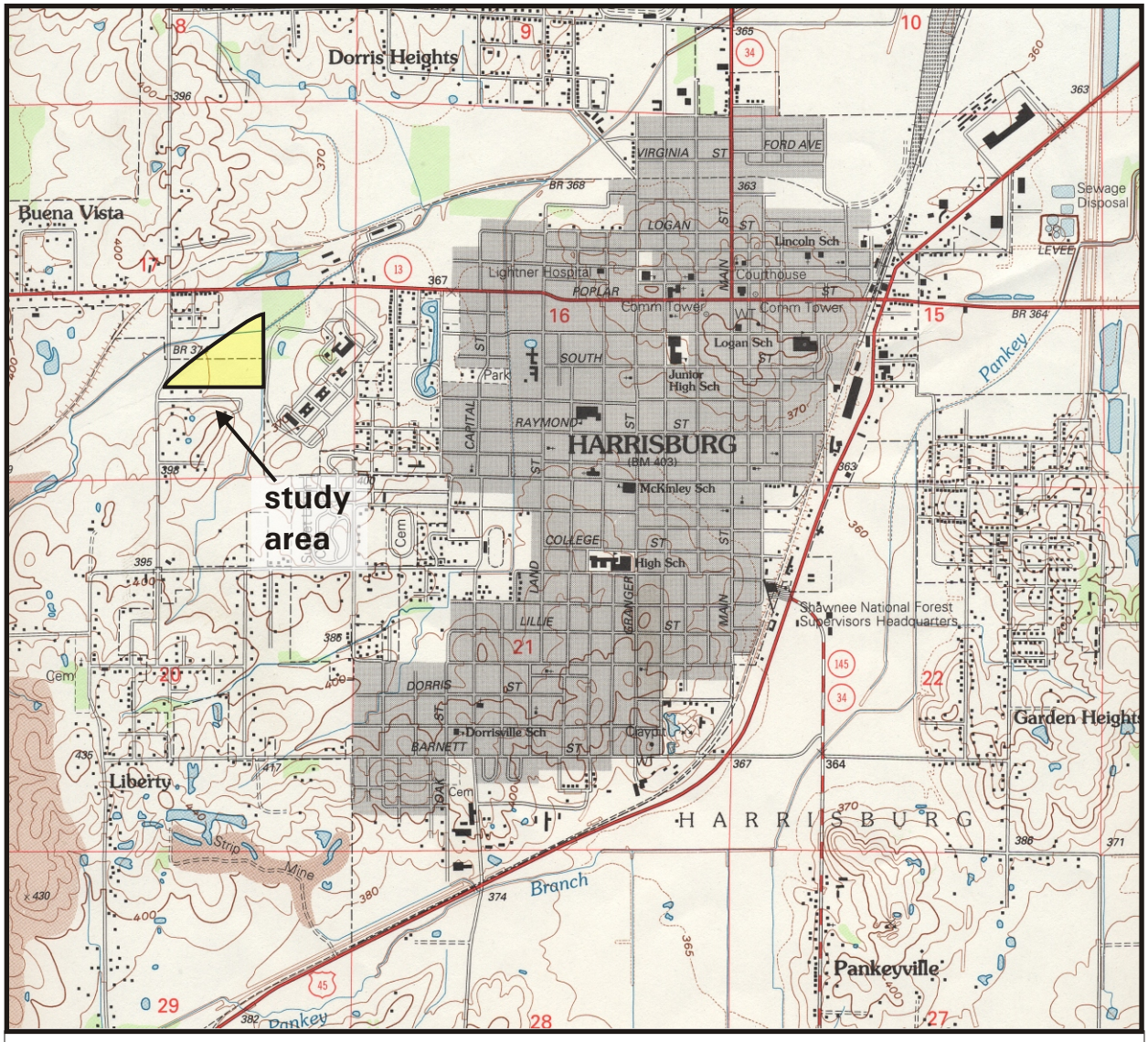
Harrisburg Potential Wetland Compensation Site

(FAP 332)

General Study Area and Vicinity

from the USGS Topographic Series, Harrisburg, IL 7.5-minute Quadrangle (USGS 1996)

contour interval is 5 feet



wetland compensation site

0 2000 ft

0 600 m

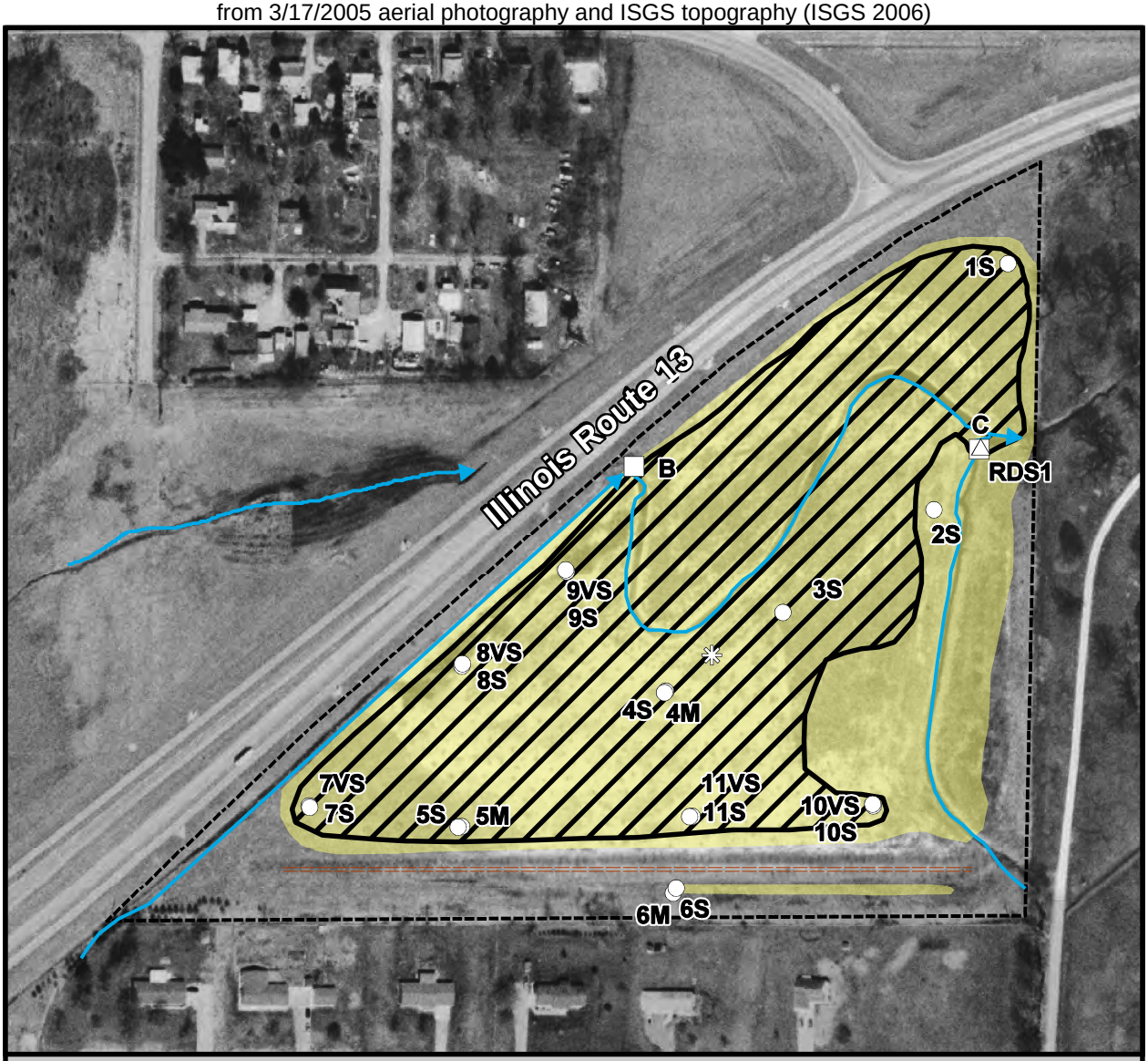
N

Harrisburg Wetland Compensation Site
(FAP 332)

Estimated Areal Extent of 2006 Wetland Hydrology

based on data collected between September 1, 2005 and September 1, 2006

map based on USGS digital orthophotograph, Harrisburg NW quarter quadrangle
from 3/17/2005 aerial photography and ISGS topography (ISGS 2006)



2006 Wetland Hydrology

- >5% of growing season
- >12.5% of growing season
- monitoring well
- RDS data logger
- staff gauge
- rain gauge
- ditch
- berm
- site boundary

N

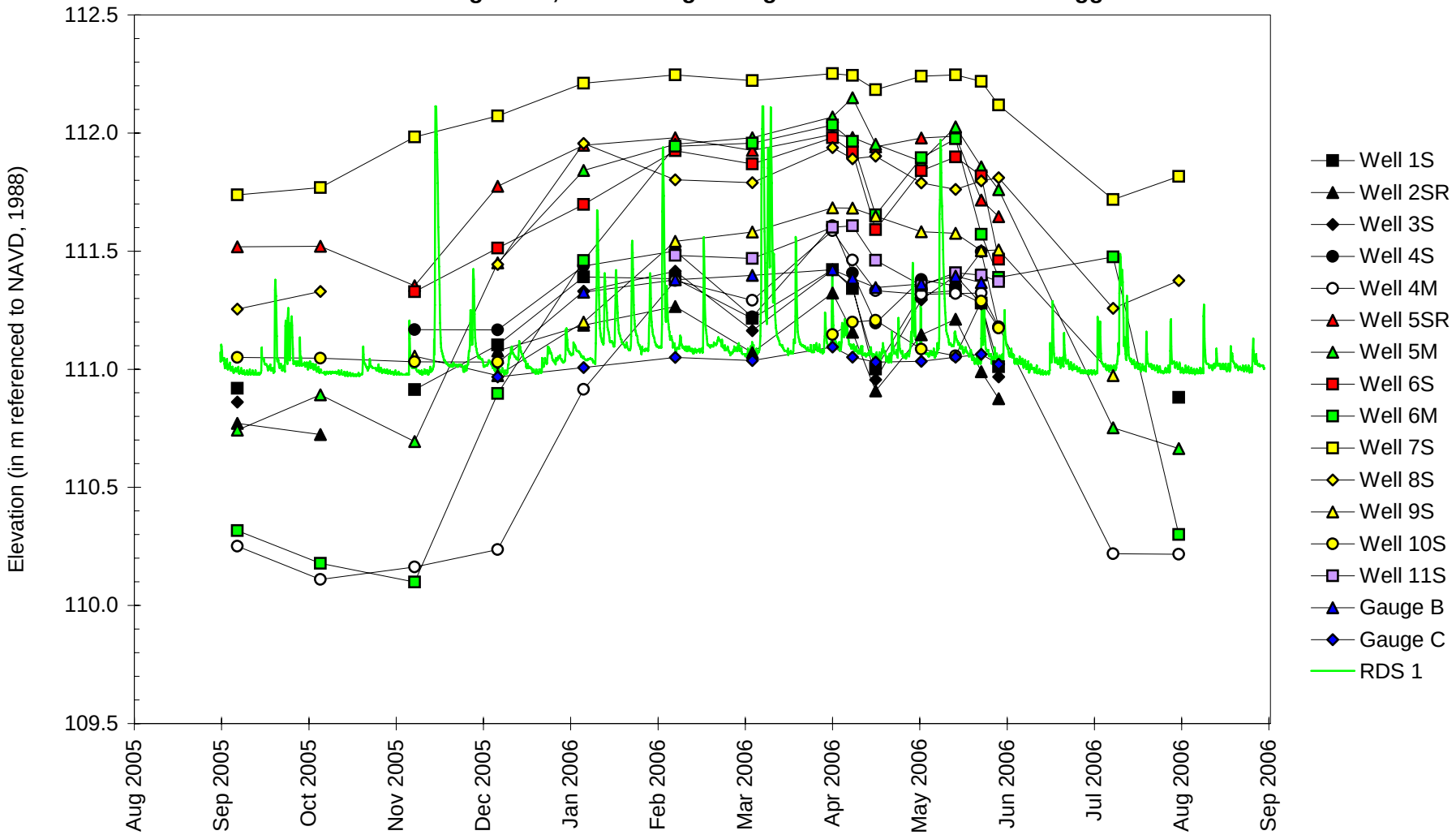
0 250 ft

0 75 m

Harrisburg Potential Wetland Compensation Site

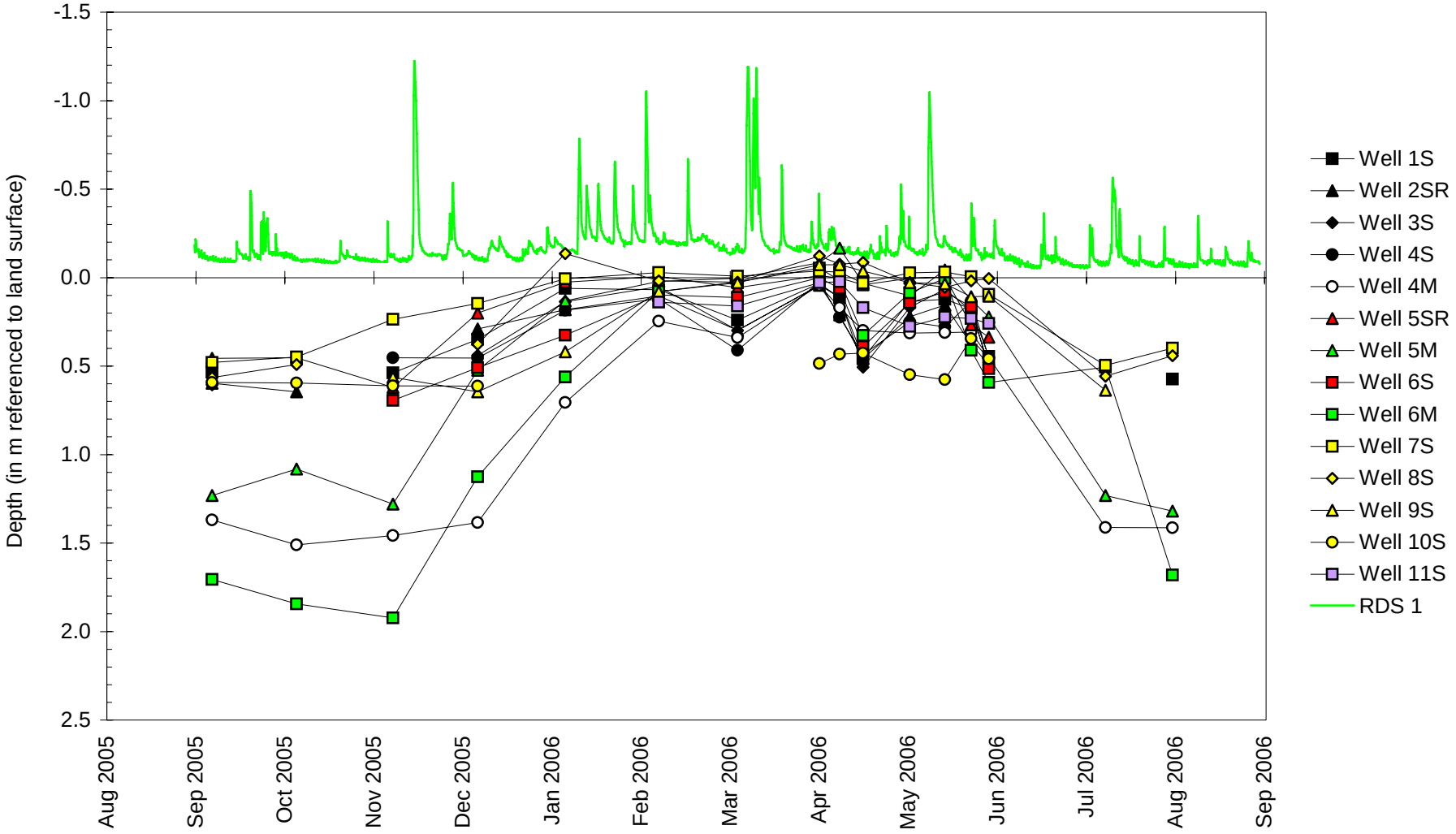
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Monitoring Wells, on the Stage Gauges and at the RDS Data Logger



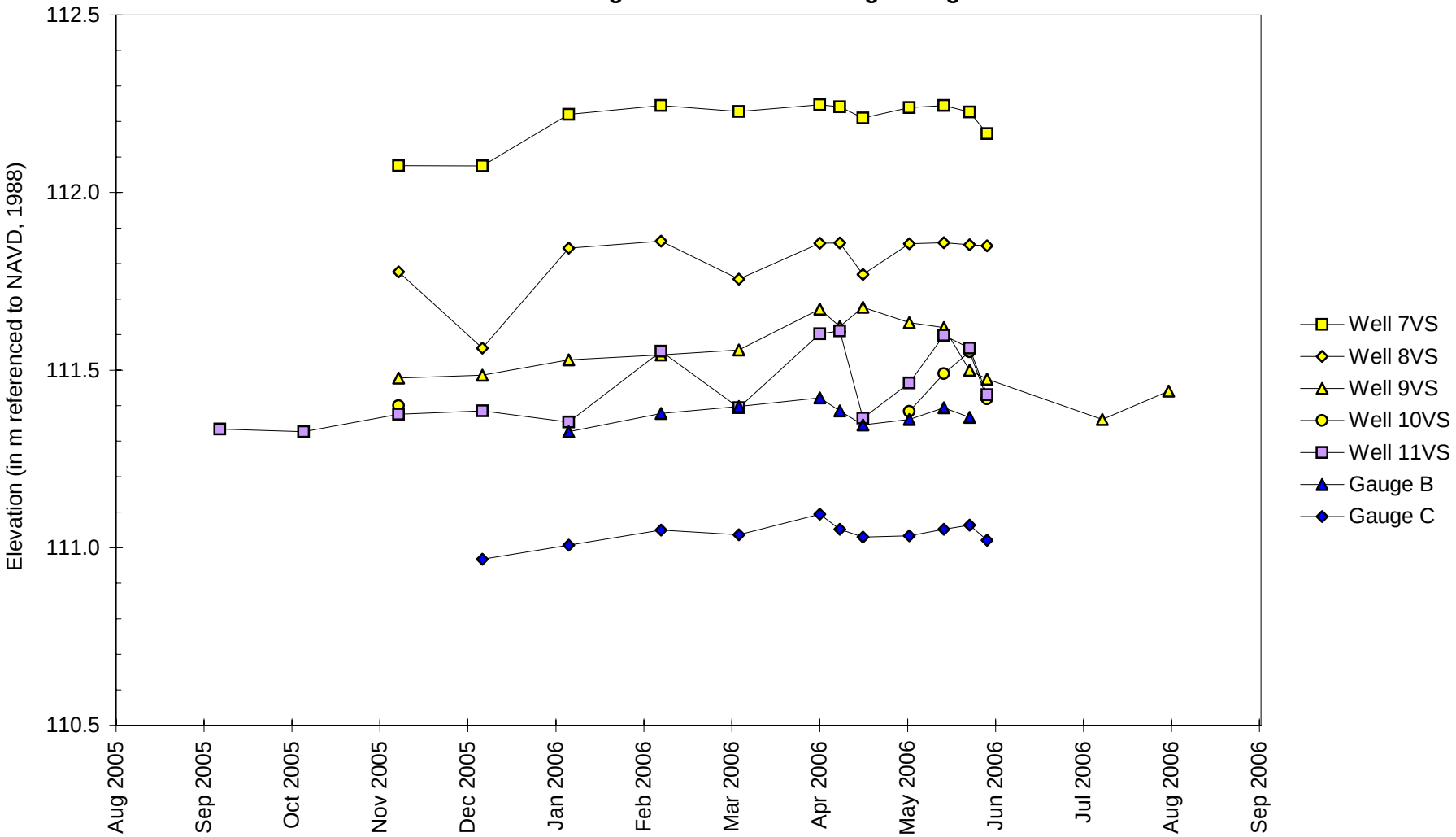
Harrisburg Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water
in Monitoring Wells and at the RDS Data Logger

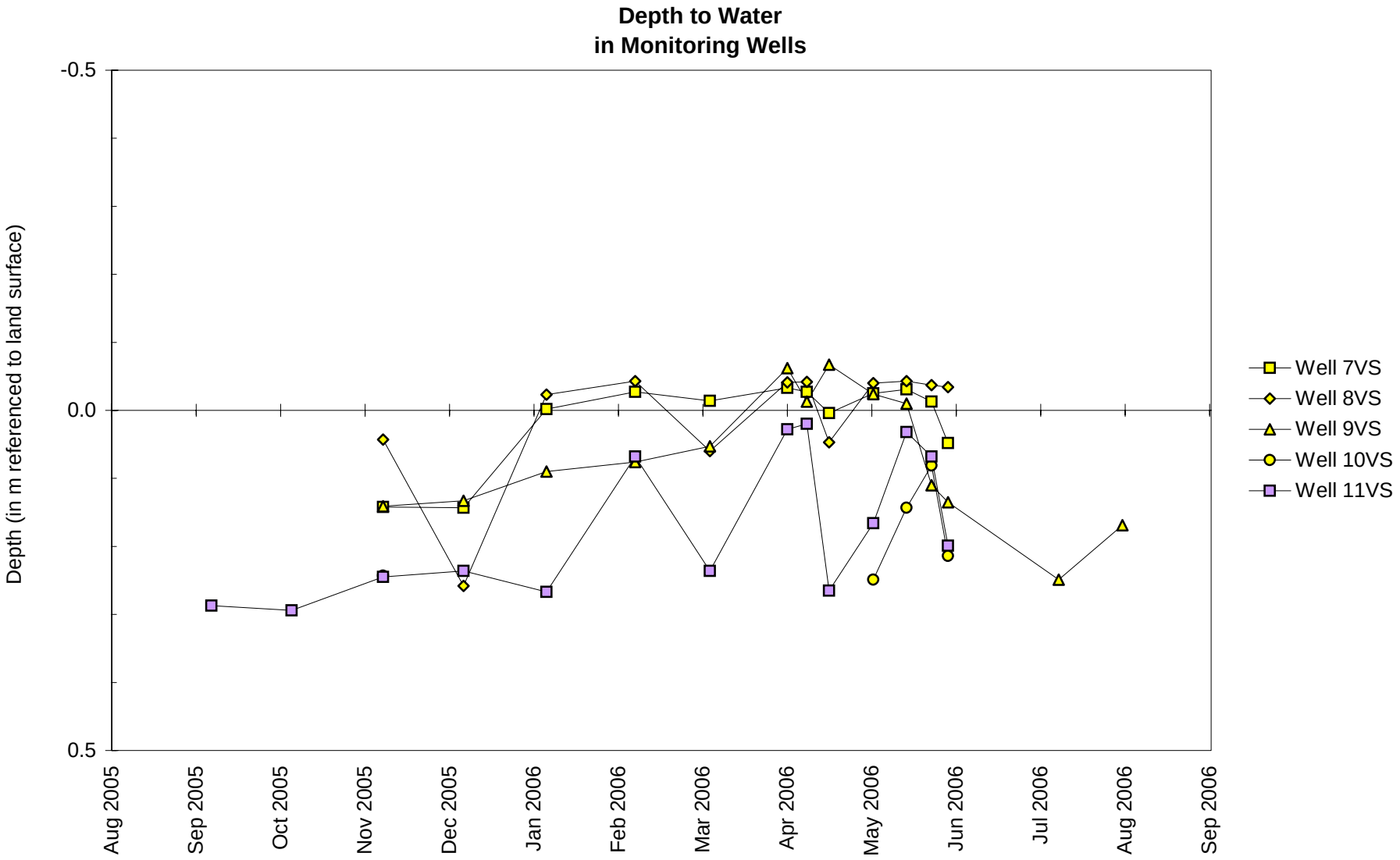


Harrisburg Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Monitoring Wells and on the Stage Gauges



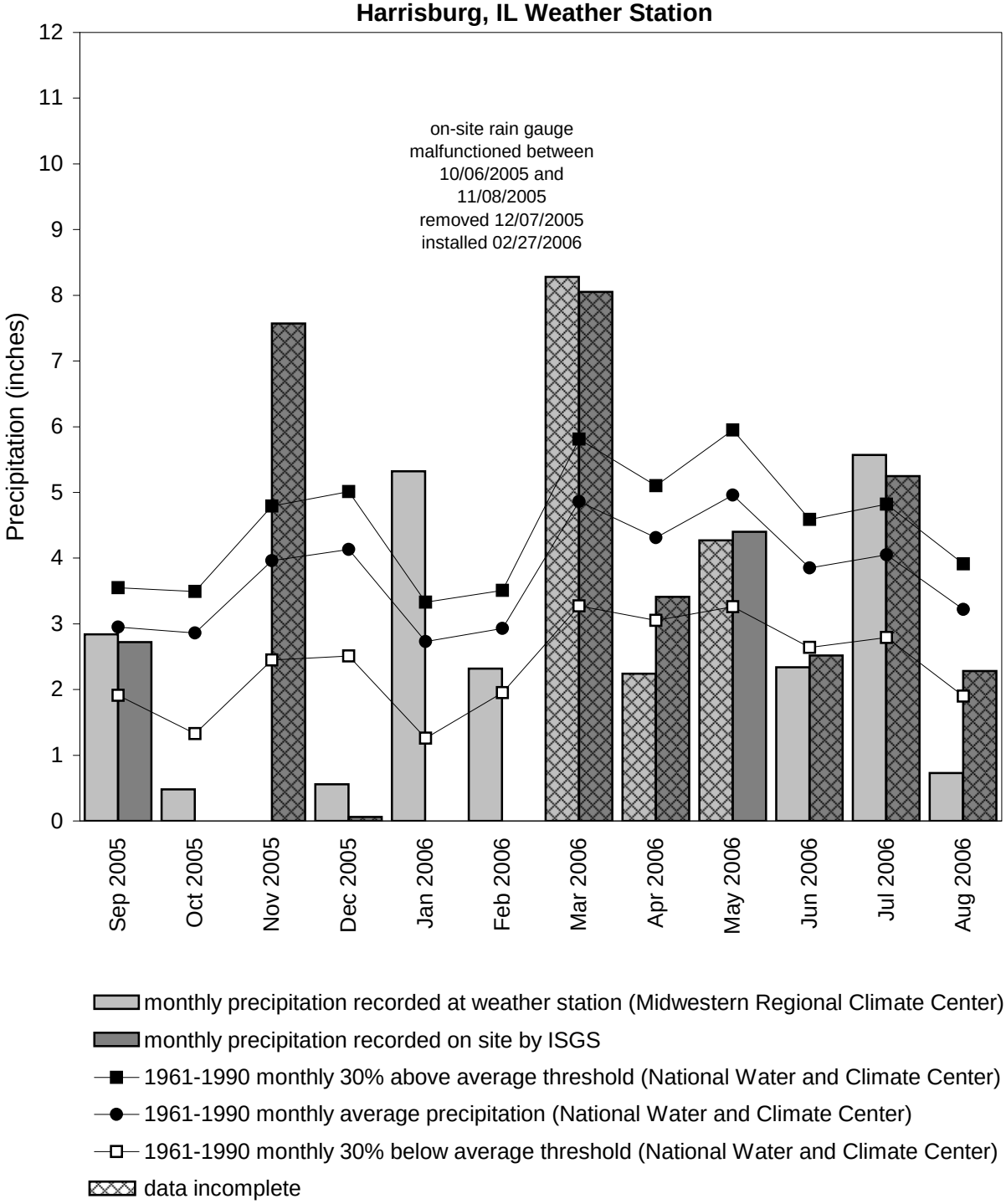
Harrisburg Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006



Harrisburg Potential Wetland Compensation Site

September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Harrisburg, IL Weather Station



Graph last updated October 13, 2006

CARBONDALE **ISGS #65**
WETLAND COMPENSATION SITE
FAP 322
Sequence #9780
Jackson County, near Carbondale, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Fall 1999: The wetland compensation site was constructed.

- March 2002: ISGS was tasked by IDOT to monitor wetland hydrology at the site. Post-construction water-level monitoring was initiated in April 2002.

- May 2006: IDOT held a site review meeting and proposed closure of this site after the 2006 monitoring season.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that 0.2 ha (0.6 ac) out of a total of 4.0 ha (9.9 ac) satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006, whereas 0.06 ha (0.1 ac) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Carbondale, Illinois, is April 4 and the season lasts 203 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation for the reporting period from September 2005 through August 2006 was 105% of normal. Drier than normal conditions prevailed in October and December 2005 and in February, April, June, and August 2006. Precipitation was near or above normal in September and November 2005 and in January, March, May, and July 2006.

- In 2006, monitoring wells 2S, 4S, 5S, and 8S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 2S and 5S also satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- The water levels recorded at data loggers RDS 1 and Gauge A show that flood events from Piles Fork supply surface water to the created wetland areas. The area in the basin surrounding RDS 1 below approximately 123.2 m (403.8 ft) was inundated for greater than 5% of the growing season, and a small area below approximately 122.9 m (403.2 ft) was inundated for greater than 12.5% of the growing season.

- For the entire post-construction monitoring period of 2002–2006, wells 2S, 4S, 5S, and 8S satisfied the wetland hydrology criteria for greater than 5% of the growing season in at least 3 of 5 years. Furthermore, wells 2S and 5S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season in at least 3 of 5 years. We estimate that 0.2 ha (0.6 ac) of the 4.0-ha (9.9-ac) site satisfies wetland hydrology criteria for greater than 5%

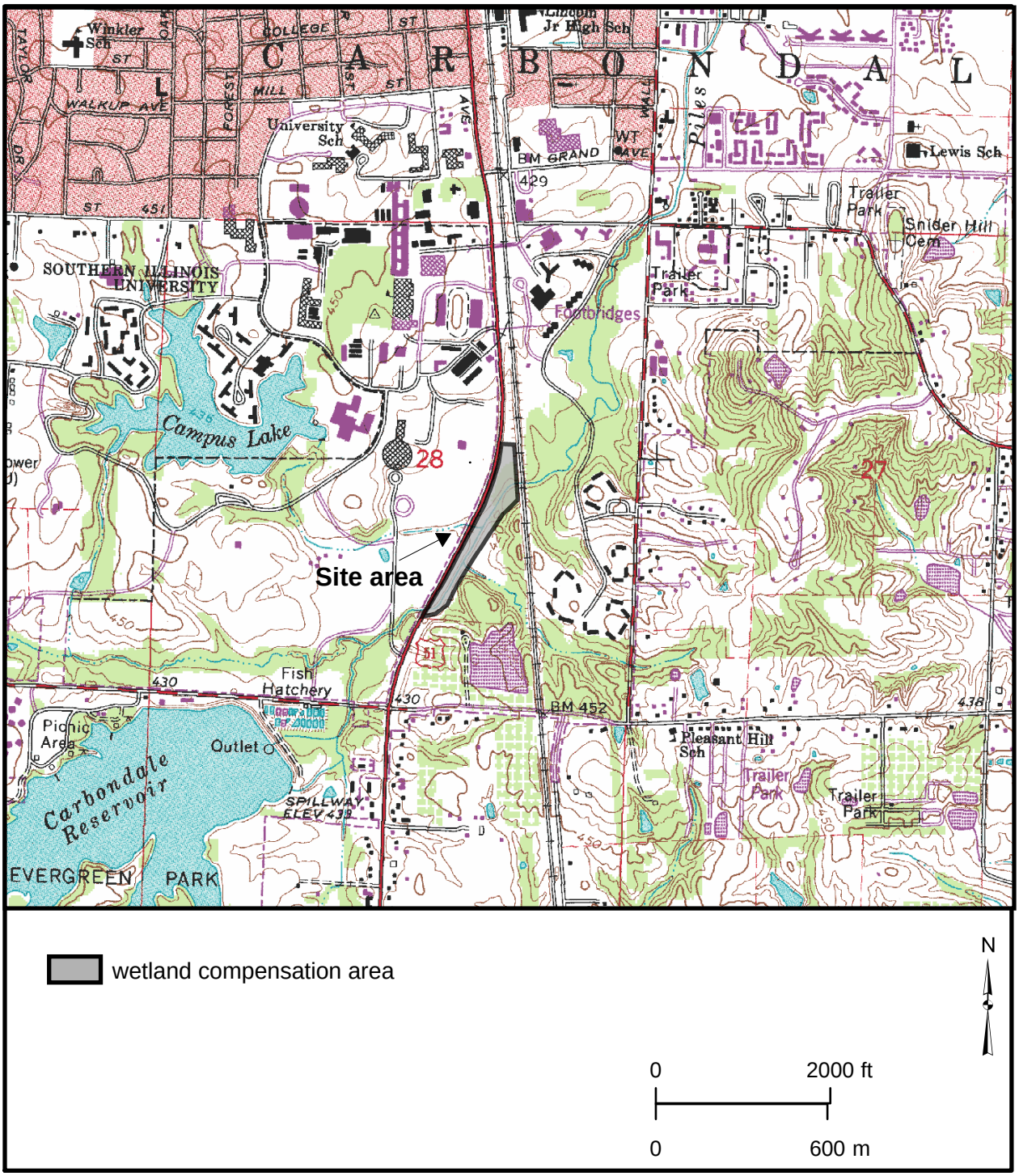
of the growing season, whereas 0.1 ha (0.3 ac) satisfied wetland hydrology for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Water-level monitoring will continue until no longer required by IDOT.

Carbondale Wetland Compensation Site
(FAP 322)
General Study Area and Vicinity

from the USGS Topographic Series, Carbondale, IL 7.5-minute Quadrangle
(USGS 1966; photorevised 1990)
contour interval is 10 feet

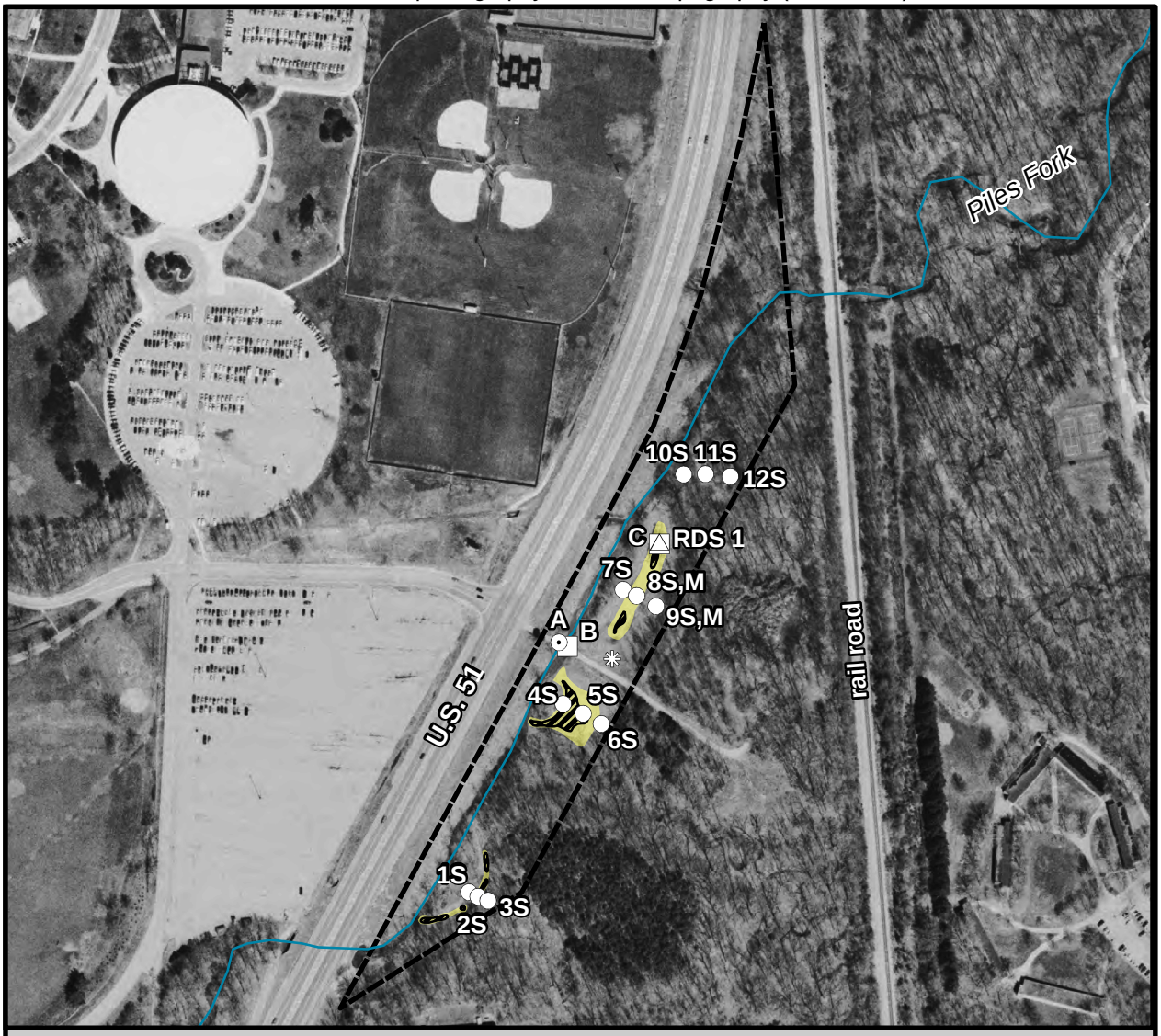


Carbondale Wetland Compensation Site
(FAP 322)

Estimated Areal Extent of 2006 Wetland Hydrology

based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Carbondale NW quarter quadrangle from 3/31/2005 aerial photography and ISGS topography (ISGS 2006)



2006 Wetland Hydrology

- >5% of growing season
- >12.5% of growing season
- monitoring well
- RDS data logger
- Global data logger
- staff gauge
- rain gauge
- stream (Piles Fork)
- site boundary

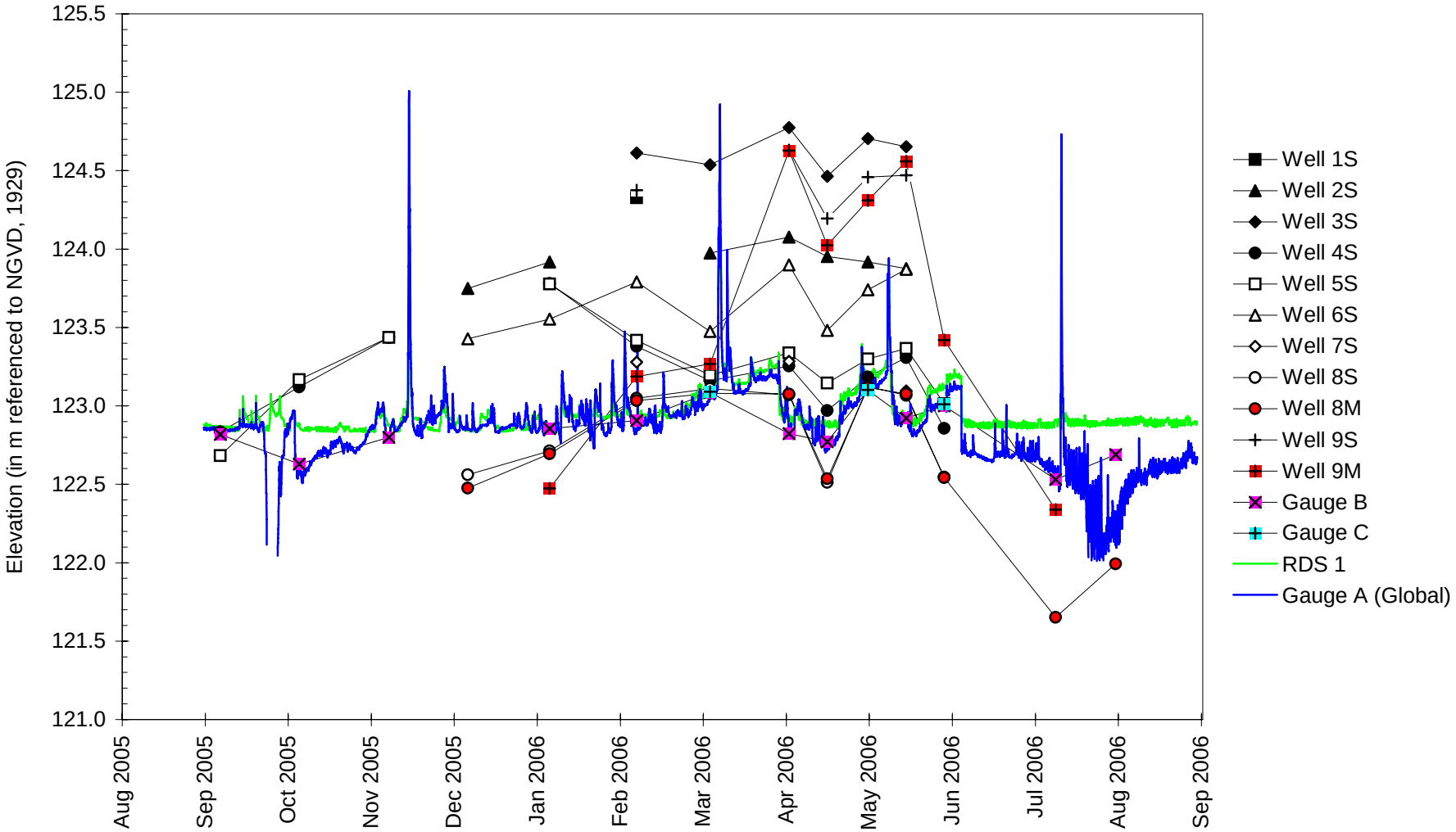
N

0 500 ft

0 150 m

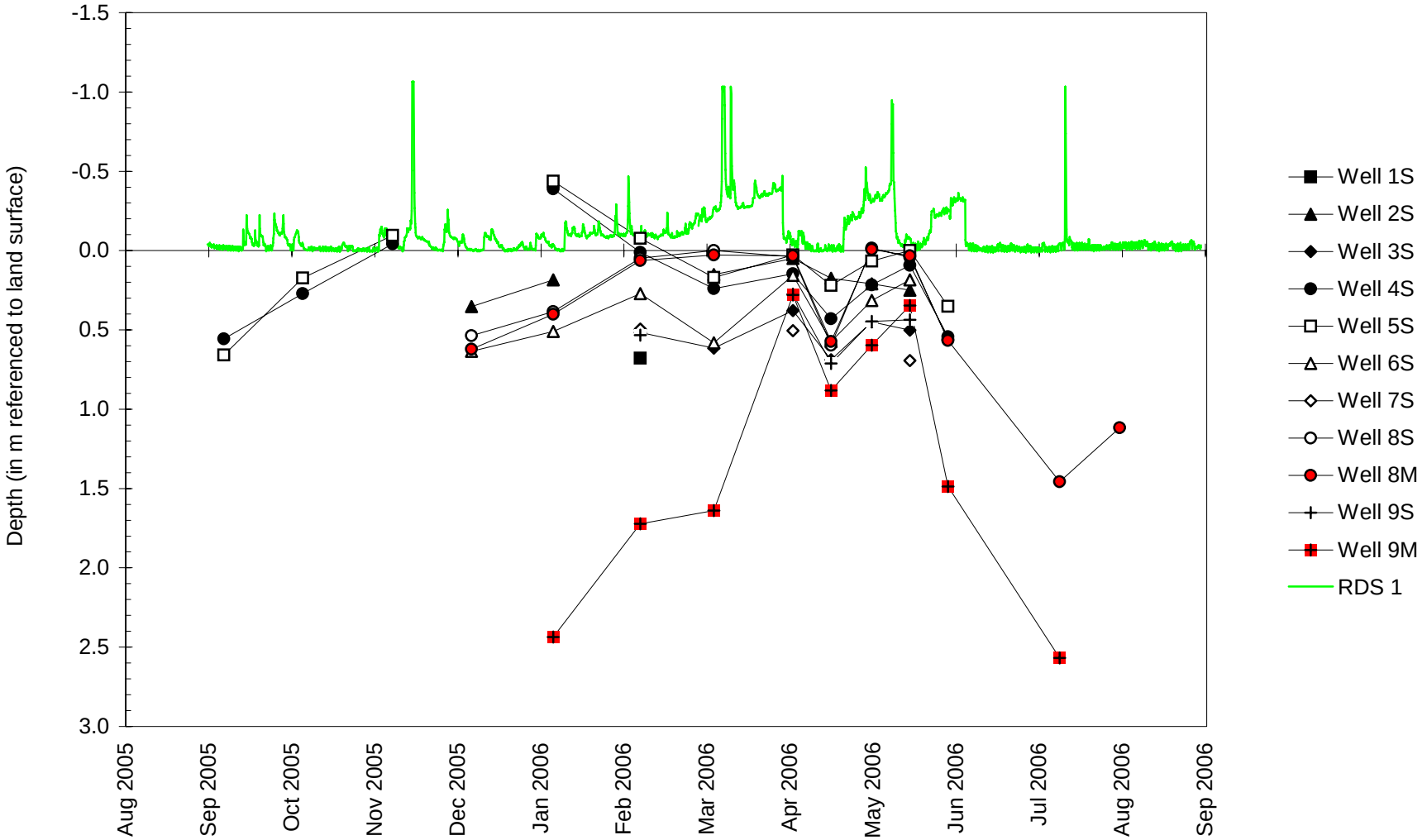
Carbondale Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Selected Monitoring Wells, on the Stage Gauge, and at the Data Loggers



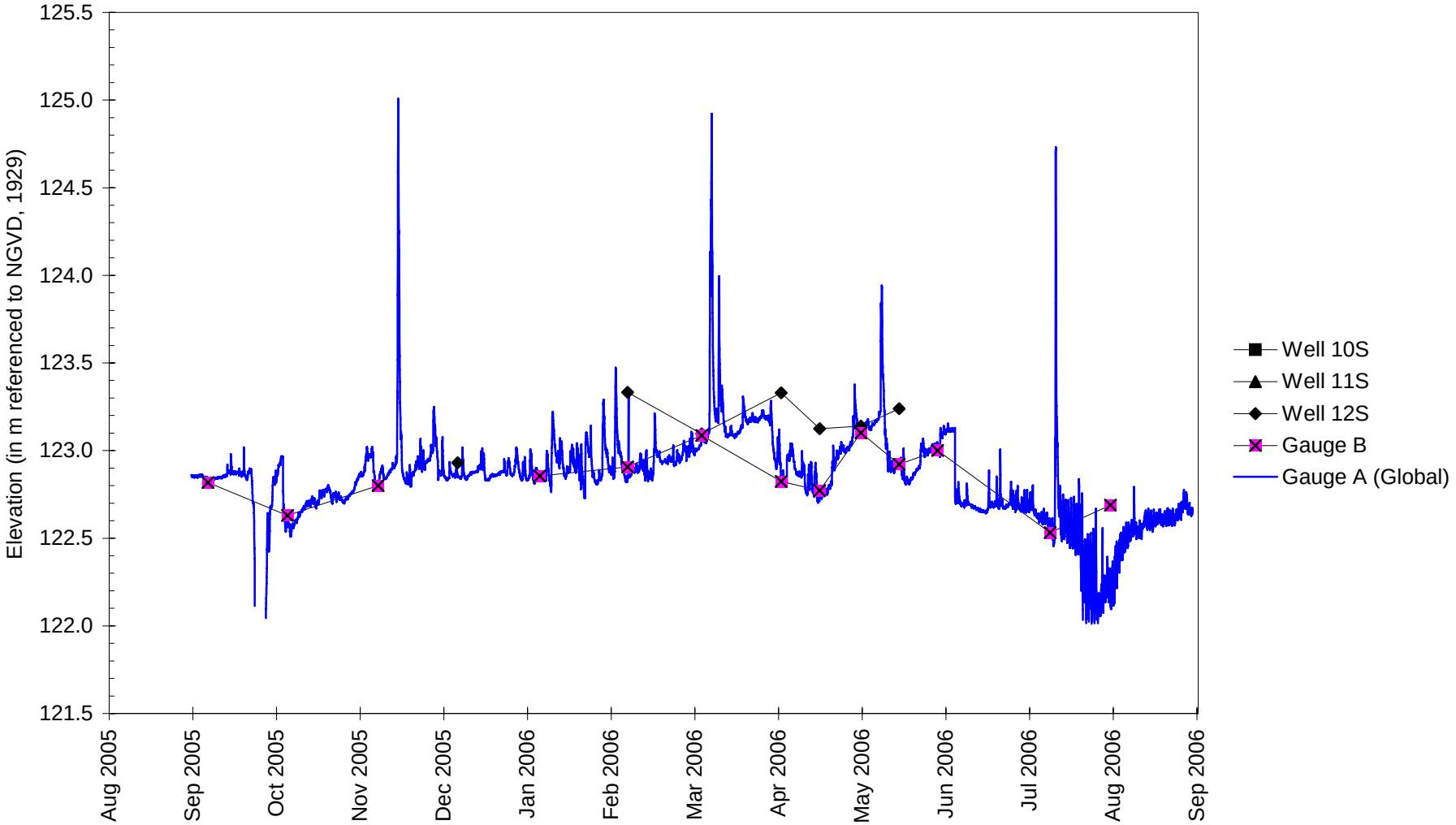
Carbondale Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water
in Selected Monitoring Wells and at the RDS Data Logger

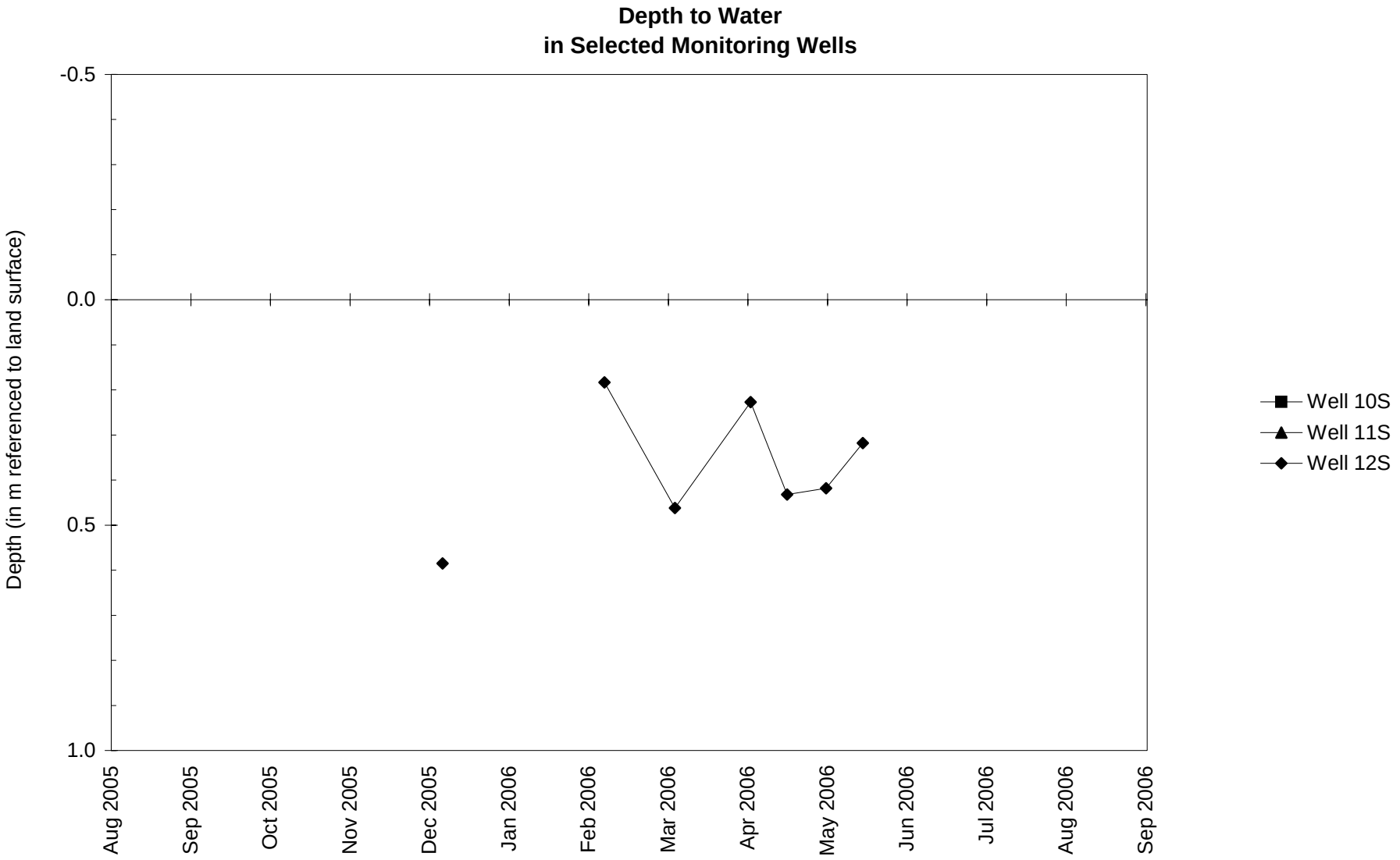


Carbondale Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Selected Monitoring Wells, on the Stage Gauge, and at the Global Data Logger



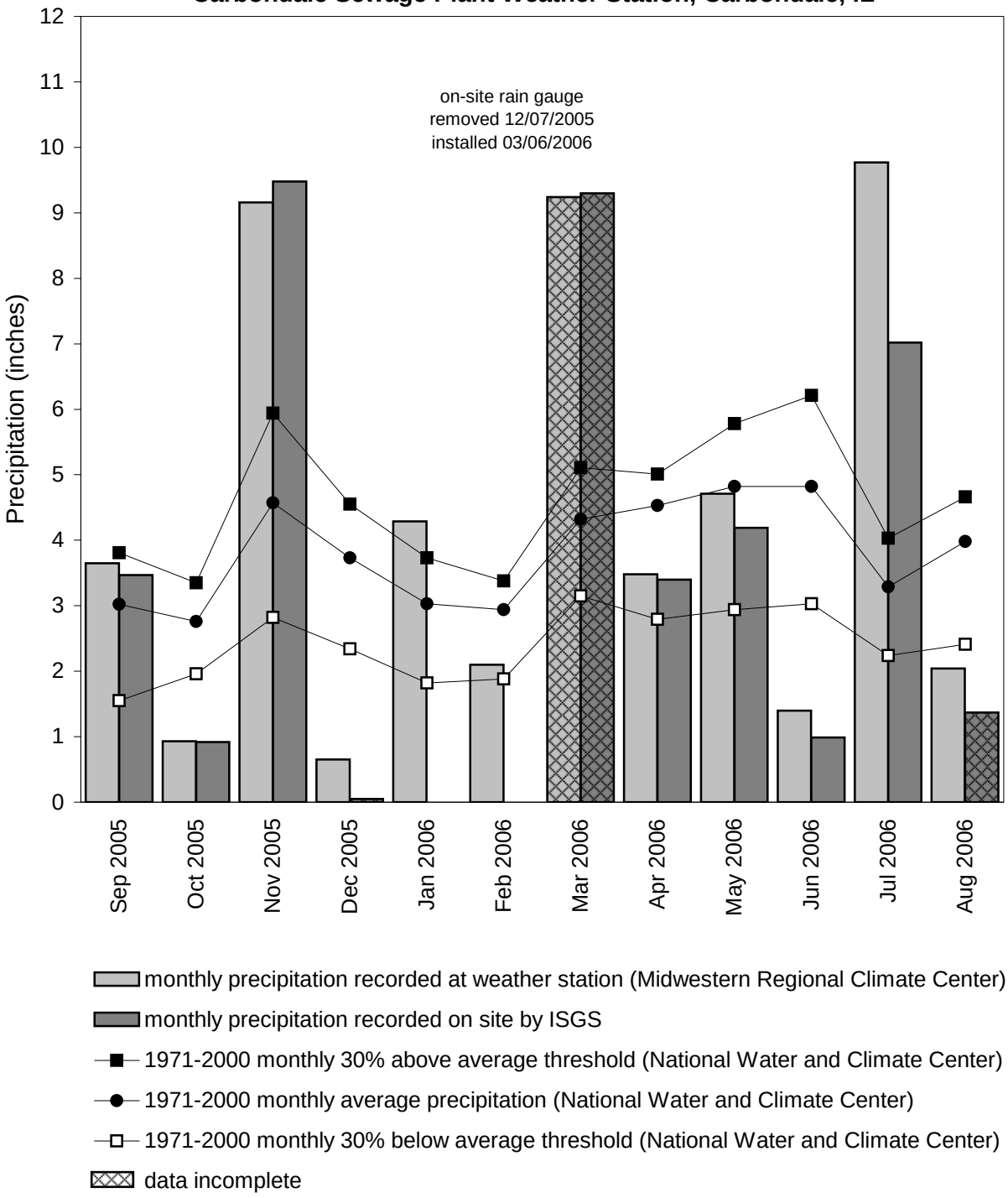
Carbondale Wetland Compensation Site
September 1, 2005 to September 1, 2006



Carbondale Wetland Compensation Site

September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Carbondale Sewage Plant Weather Station, Carbondale, IL



Graph last updated October 13, 2006

PYATTS BLACKTOP **ISGS #67**
WETLAND COMPENSATION SITE
FAP 42
Sequence #409
Perry County, near Pyatts, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Fall 1998: The wetland compensation site was constructed.

- April 2002: ISGS was tasked by IDOT to monitor wetland hydrology. Post-construction water-level monitoring was initiated in May 2002.

- May 2006: IDOT held a site review meeting and proposed closure of this site after the 2006 monitoring season.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that the total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006 was 2.0 ha (4.8 ac) of the 6.7-ha (16.4-ac) site, whereas 0.4 ha (1.0 ac) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Du Quoin, Illinois, is April 5 and the season lasts 207 days; 5% of the growing season is 10 days and 12.5% of the growing season is 26 days.

- Total precipitation for the reporting period from September 2005 through August 2006 was 91% of normal. Drier than normal conditions prevailed in October and December 2005, and in February, April, and June through August 2006. Precipitation was at or above normal in September and November 2005 and in January, March, and May 2006.

- Wells 1S, 2S, 3S, 4S, 5S, 7S, 8S, 9S, 12S, and 12VS satisfied the wetland hydrology criteria for 5% of the growing season. Furthermore, wells 3S, 4S, 7S, 12S, and 12VS also satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- A data logger in well 15S revealed that water levels dropped below the wetland hydrology depth-to-water range (within 30 cm (1.0 ft) of land surface) for 5 days within the 14-day period between manual readings. Therefore this location did not satisfy wetland hydrology criteria despite two consecutive manual measurements in well15VS that indicated water levels within 30 cm (1 ft) of land surface.

- Surface-water levels recorded at Gauge D indicated that water levels in the creek remained well below the elevation of the mitigation area, although isolated areas of inundation were observed near wells 3S, 4S, and 12S.

- For the entire post-construction monitoring period of 2002–2006, wells 1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, 12S and 12VS satisfied the wetland hydrology criteria for greater than 5% of the

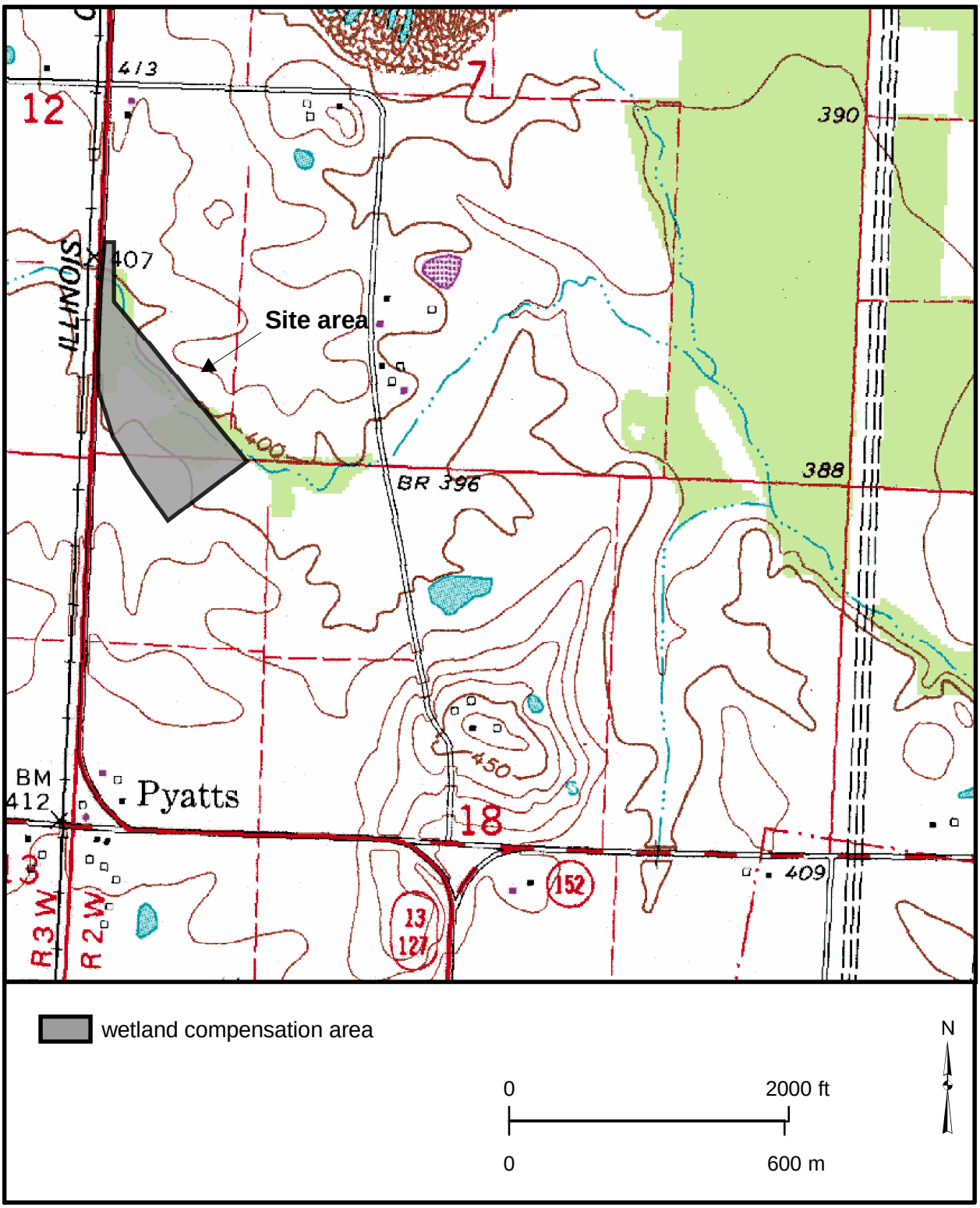
growing season in at least 3 of 5 years. Furthermore, wells 3S, 4S, 7S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season in at least 3 of 5 years, and wells 12S and 12VS satisfied the 12.5% criteria in at least 2 of 3 years. We estimate that 2.1 ha (5.1 ac) of the 6.7-ha (16.4-ac) site satisfies wetland hydrology criteria for greater than 5% of the growing season, whereas 0.7 ha (1.7 ac) satisfied wetland hydrology for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Monitoring will continue at the site until no longer required by IDOT.

Pyatts Blacktop Wetland Compensation Site
(FAP 42)
General Study Area and Vicinity

from the USGS Topographic Series, Pyatts, IL (USGS 1974; photorevised 1982) 7.5-minute Quadrangle
contour interval is 10 feet

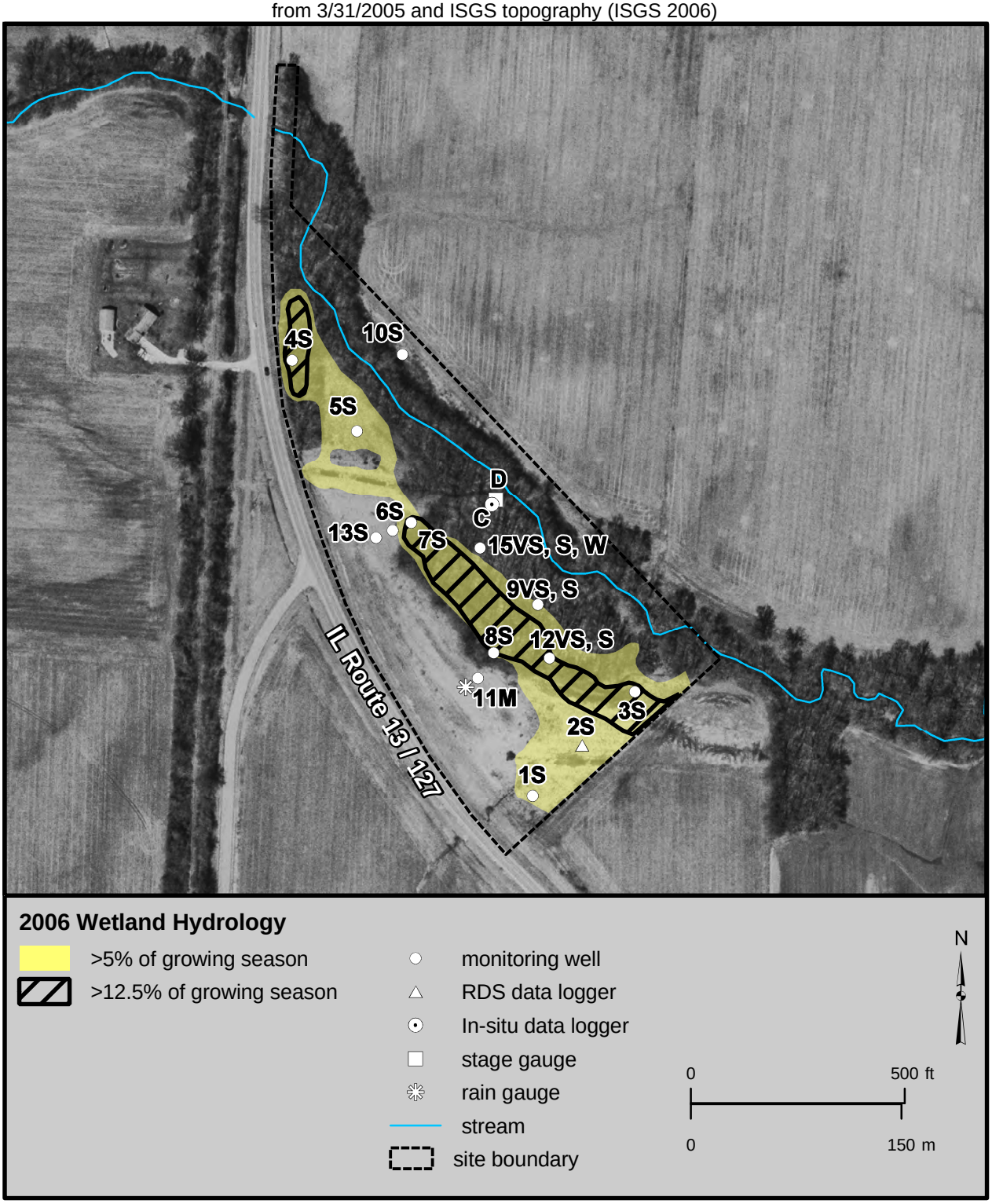


Pyatts Blacktop Wetland Compensation Site
(FAP 42)

Estimated Areal Extent of 2006 Wetland Hydrology

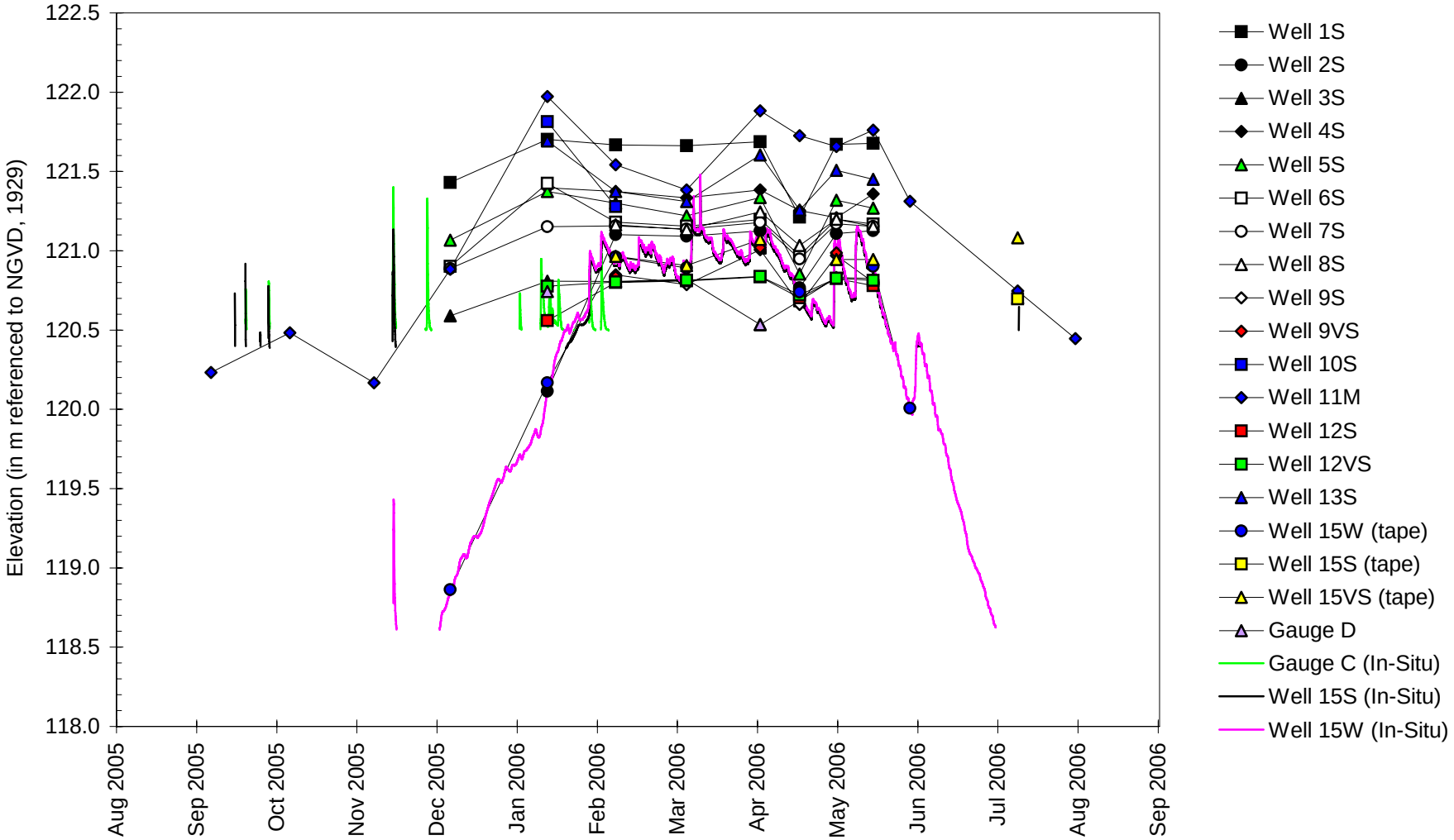
based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Pyatts SW quarter quadrangle
from 3/31/2005 and ISGS topography (ISGS 2006)



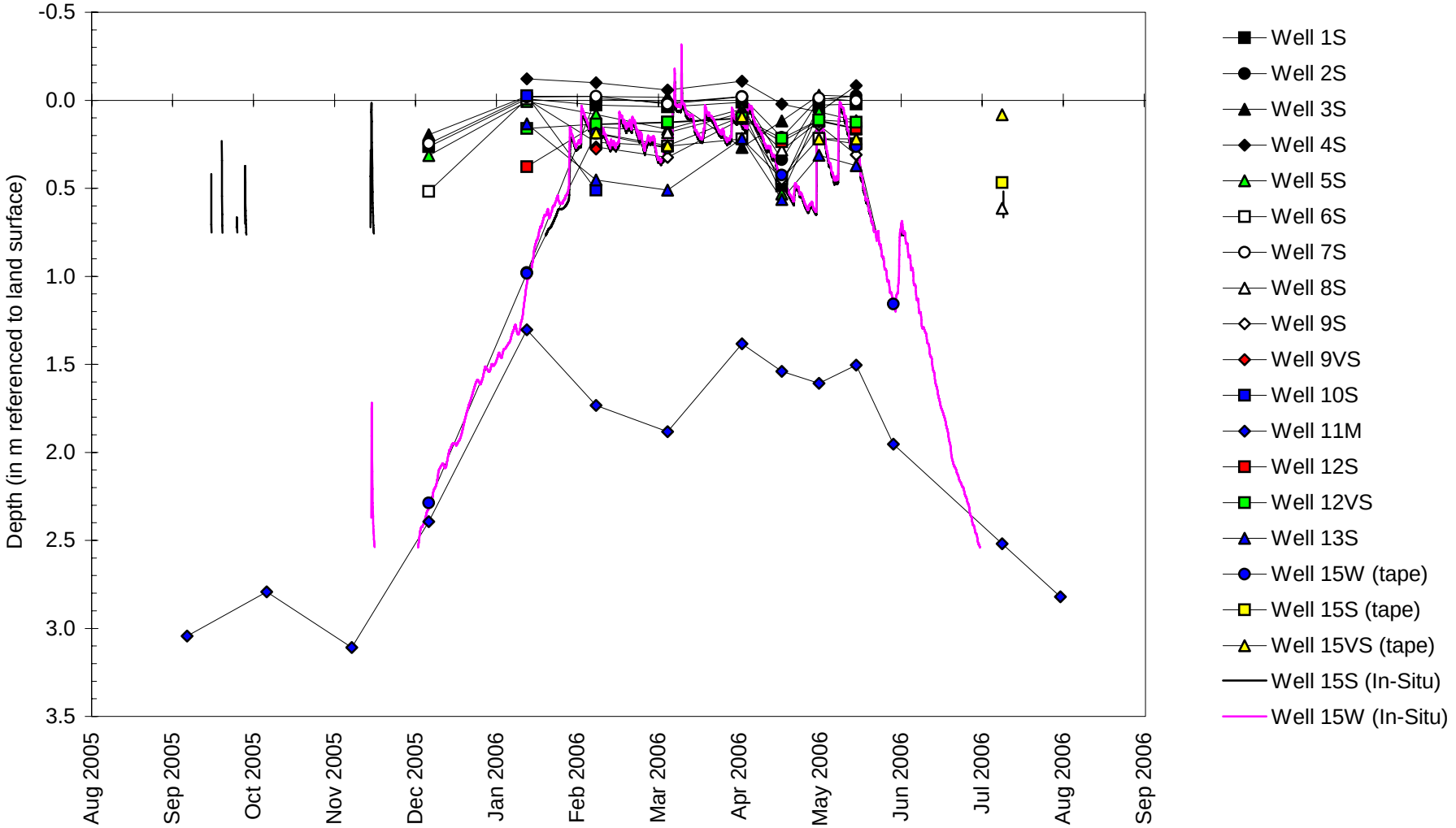
Pyatts Blacktop Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations



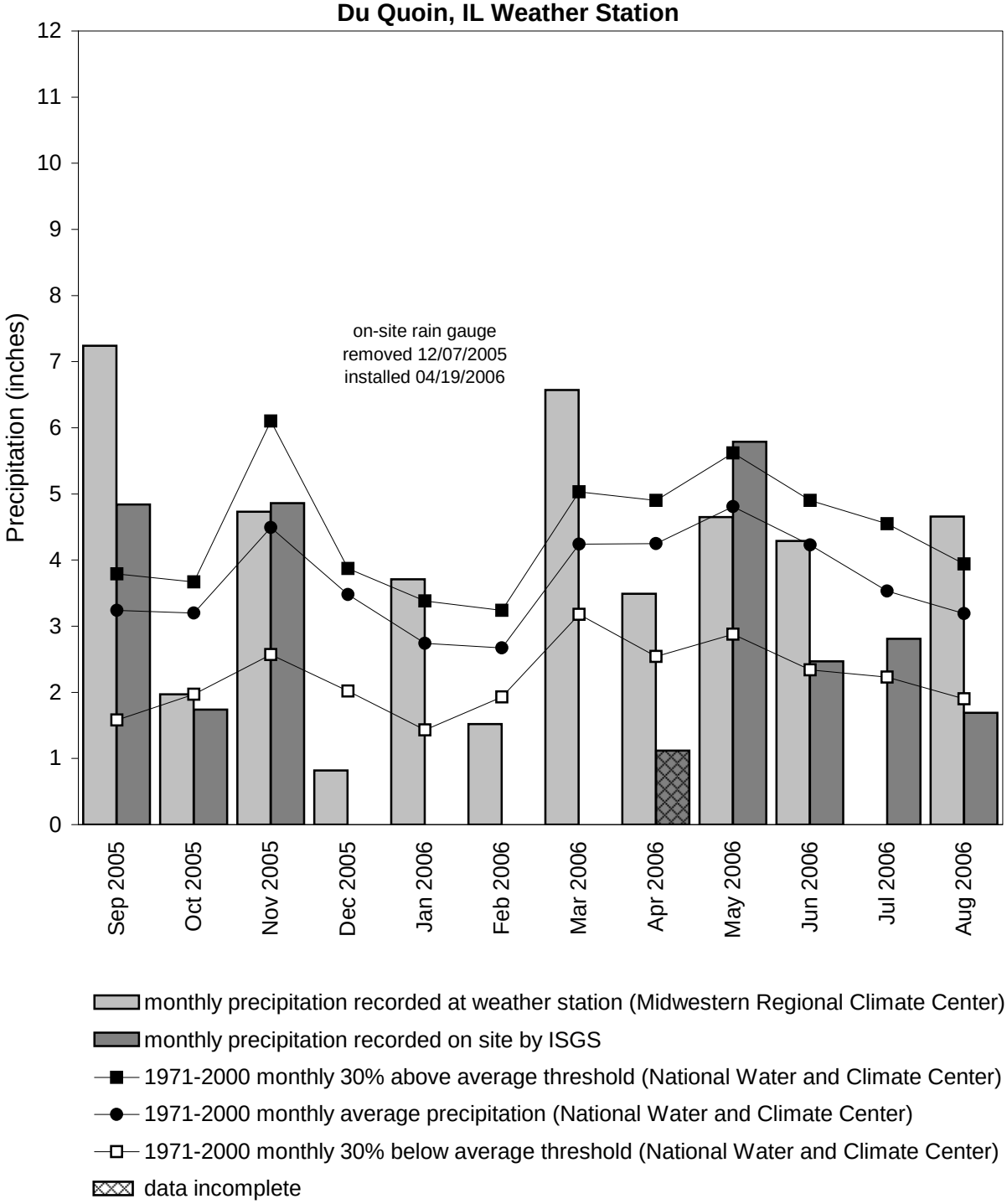
Pyatts Blacktop Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water



Pyatts Blacktop Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Du Quoin, IL Weather Station



Graph last updated October 13, 2006

DE SOTO **ISGS #68**
WETLAND COMPENSATION SITE
FAP 322
Sequence #264
Jackson County, near De Soto, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Summer 2000: The wetland compensation site was constructed.

- August 2002: ISGS was tasked by IDOT to monitor wetland hydrology. Post-construction water-level monitoring was initiated in November 2002.

- May 2006: IDOT held a site review meeting and proposed closure of this site after the 2006 monitoring season.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that 2.1 ha (5.1 ac) out of the 2.4-ha (6.0-ac) site area satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006, whereas 0.7 ha (1.7 ac) satisfied wetland hydrology for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Carbondale, Illinois, is April 4 and lasts 203 days; 5% of the growing season is 10 days and 12.5% of the growing season is 25 days.

- Total precipitation for the reporting period from September 2005 through August 2006 was 101% of normal. Drier than normal conditions prevailed in October and December 2005 and in February, April through June, and August 2006. Precipitation was at or above normal in September and November 2005 and in January, March, and July 2006.

- In 2006, wells 1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, and 9S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 2S, 5S, 6S, and 8S satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

- The water levels recorded at Gauge A show that areas in the vicinity of that gauge below approximately 110.5 m (362.5 ft) were inundated for greater than 12.5% of the growing season and therefore satisfy wetland hydrology criteria.

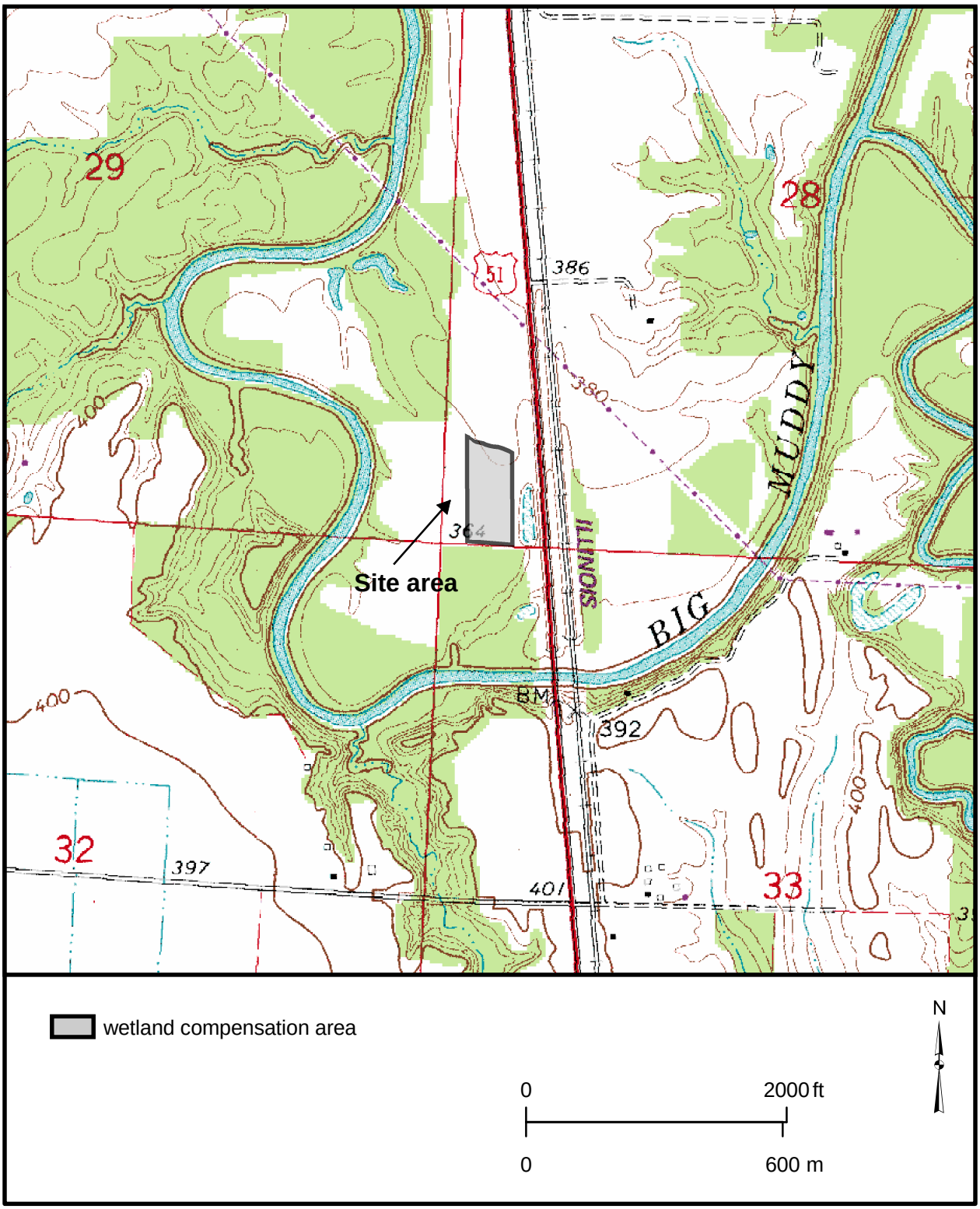
- For the entire post-construction monitoring period of 2003 through 2006, wells 1S, 2S, 3S, 4S, 5S, 6S, 7S, 8S, and 9S satisfied the wetland hydrology criteria for greater than 5% of the growing season in at least 2 of 4 years. Furthermore, wells 2S, 3S, 5S, 6S, 8S, and 9S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season in at least 2 of 4 years. We estimate that 2.2 ha (5.4 ac) of the 2.4-ha (6.0-ac) site satisfies wetland hydrology criteria for greater than 5% of the growing season, whereas 1.4 ha (3.4 ac) satisfied wetland hydrology for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Monitoring will continue until no longer required by IDOT.

De Soto Wetland Compensation Site
(FAP 322)
General Study Area and Vicinity

from the USGS Topographic Series, De Soto, IL 7.5-minute Quadrangle (USGS 1968; photorevised 1978)
contour interval is 10 feet



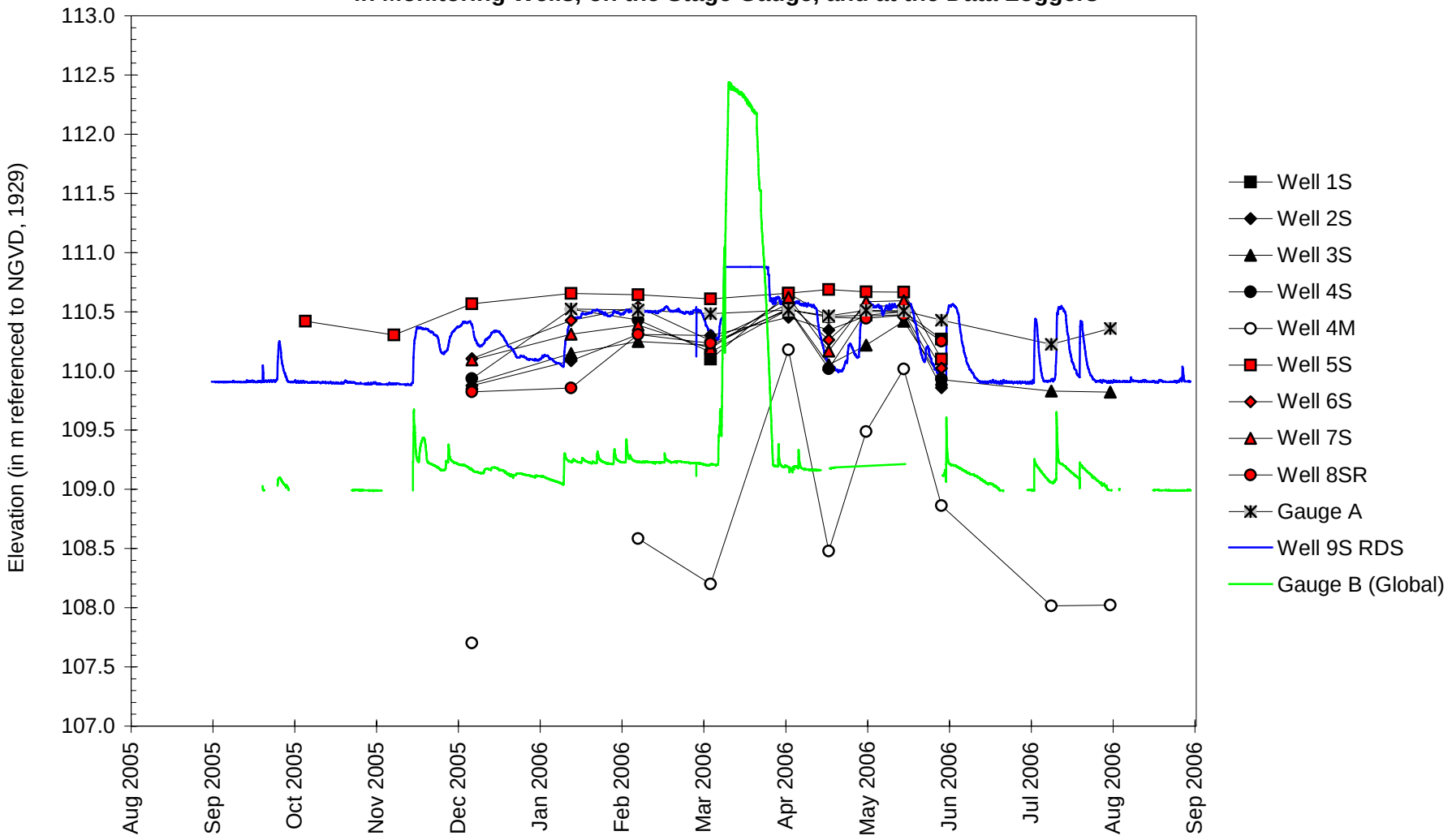
De Soto Wetland Compensation Site
(FAP 322)

Estimated Areal Extent of 2006 Wetland Hydrology
based on data collected between September 1, 2005 and September 1, 2006

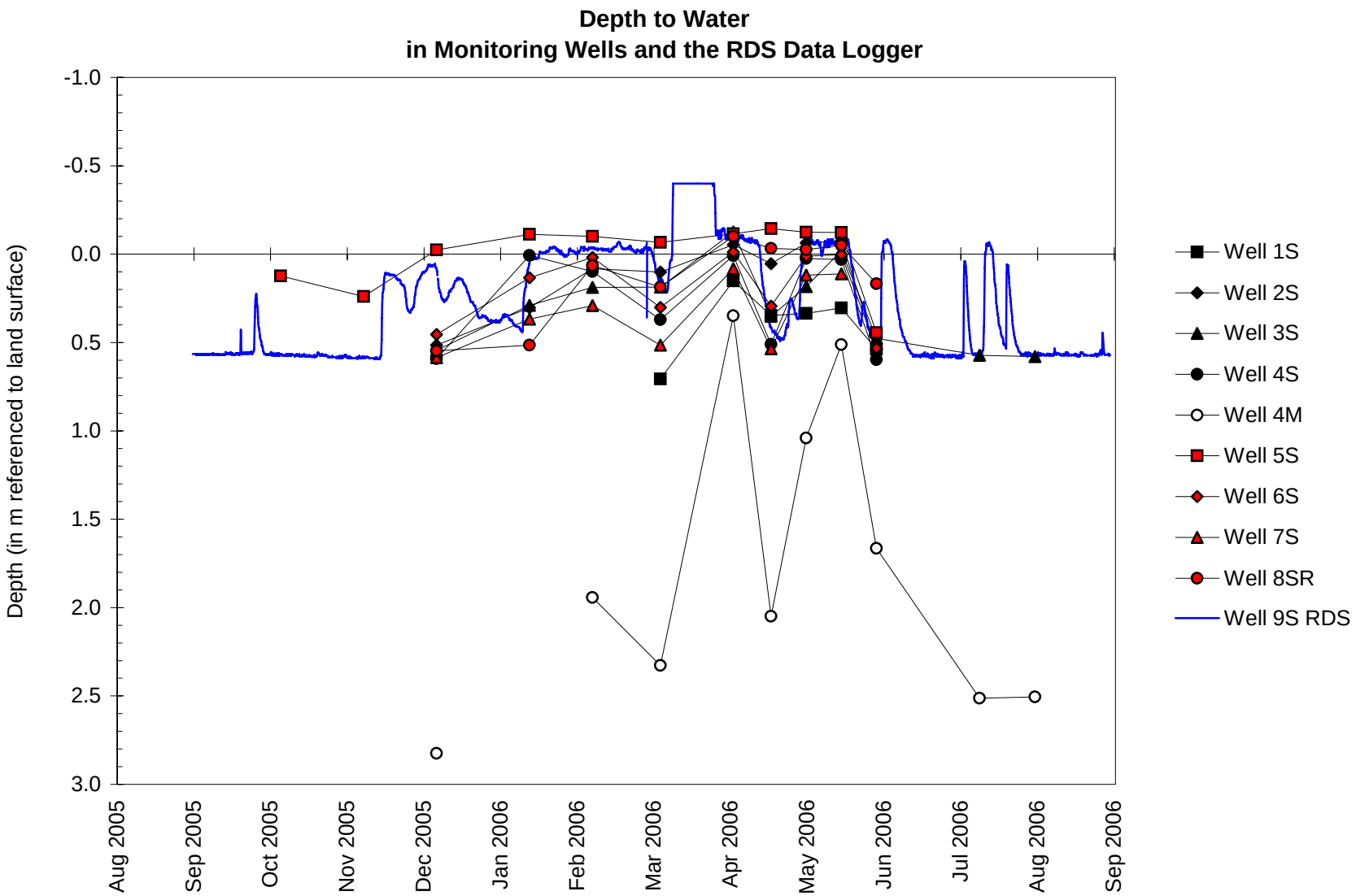
map based on USGS digital orthophotograph, De Soto NW quarter quadrangle
from 3/31/2005 aerial photography and ISGS topography (ISGS 2006)

De Soto Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Monitoring Wells, on the Stage Gauge, and at the Data Loggers



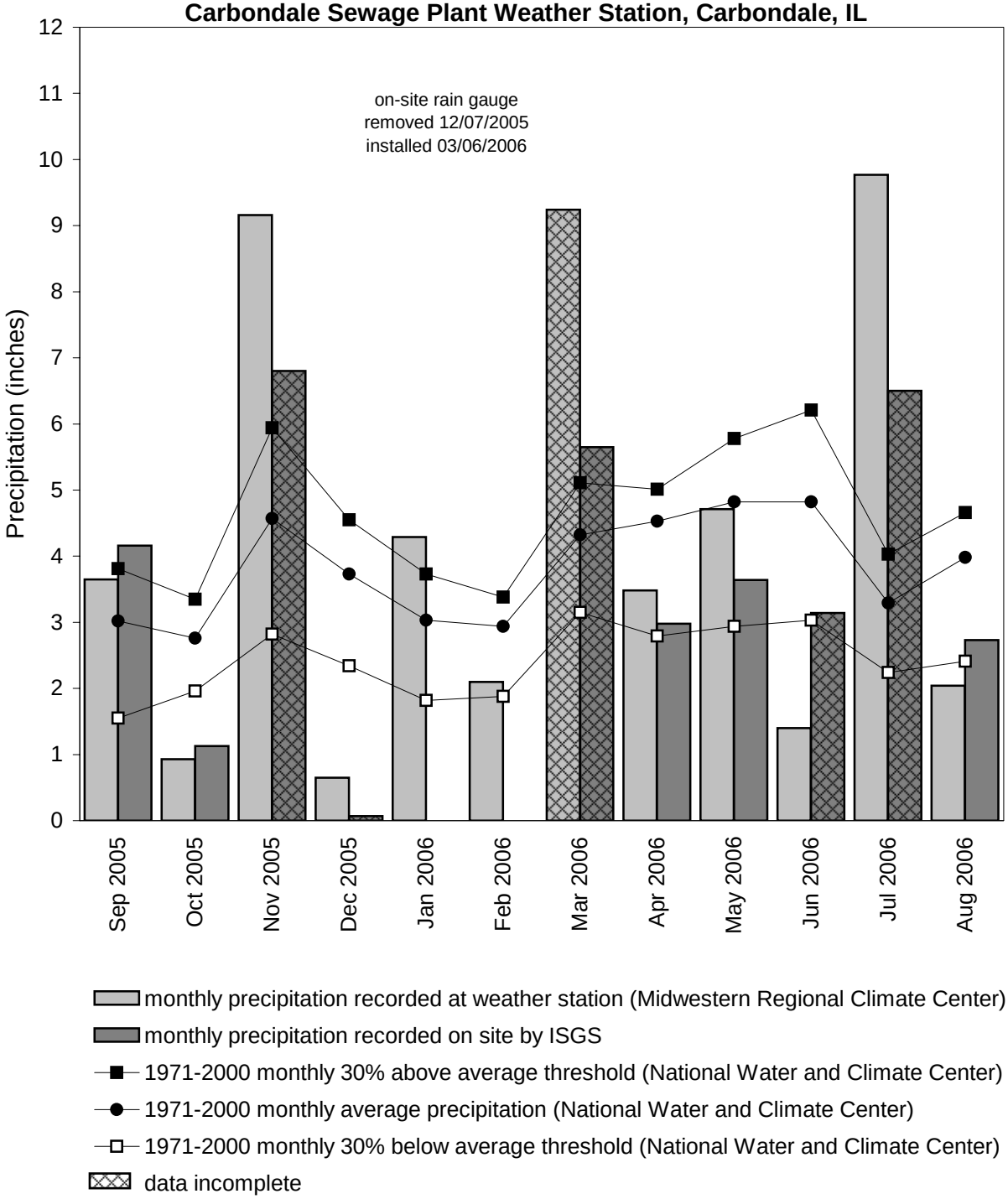
De Soto Wetland Compensation Site
September 1, 2005 to September 1, 2006



De Soto Wetland Compensation Site

September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Carbondale Sewage Plant Weather Station, Carbondale, IL



Graph last updated October 13, 2006

TAMMS **ISGS #71**
WETLAND COMPENSATION SITE
FAS 1907
Sequence #1026
Union County, near Tamms, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- Summer 2001: The wetland compensation site was constructed.

- June 2003: ISGS was tasked by IDOT to monitor wetland hydrology. Post-construction water-level monitoring was initiated in November 2003.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that 1.2 ha (2.9 ac) out of the 6.3-ha (15.6-ac) site satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006, whereas 0.6 ha (1.5 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Anna, Illinois, is March 31 and the season lasts 225 days; 5% of the growing season is 11 days and 12.5% of the growing season is 28 days.

- Total precipitation for the reporting period from September 2005 through August 2006 was 104% of normal. Drier than normal conditions prevailed in October and December 2005, and in February, and April through June 2006. April through June precipitation totaled only 75% of normal. Precipitation was at or above normal in October and November 2005 and in January and July 2006.

- Wells 3S and 7S satisfied the wetland hydrology criteria for greater than 5% of the growing season. Well 7S also satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- Surface-water data loggers RDS 1 and RDS 2 showed that ponding occurred in the vicinity of these loggers. Data from RDS 1 showed that the northernmost portion of the site below 102.8 m (337.3 ft) was inundated for greater than 5% of the growing season, and areas below 102.7 m (336.9 ft) were inundated for greater than 12.5% of the growing season. Data from RDS 2 at the south end of the site showed that an area below 102.4 m (336.0 ft) was inundated for greater than 5% of the growing season, and areas below 102.3 m (335.6 ft) were inundated for greater than 12.5% of the growing season.

PLANNED FUTURE ACTIVITIES

- Water-level monitoring is expected to continue through 2008 or until no longer required by IDOT.

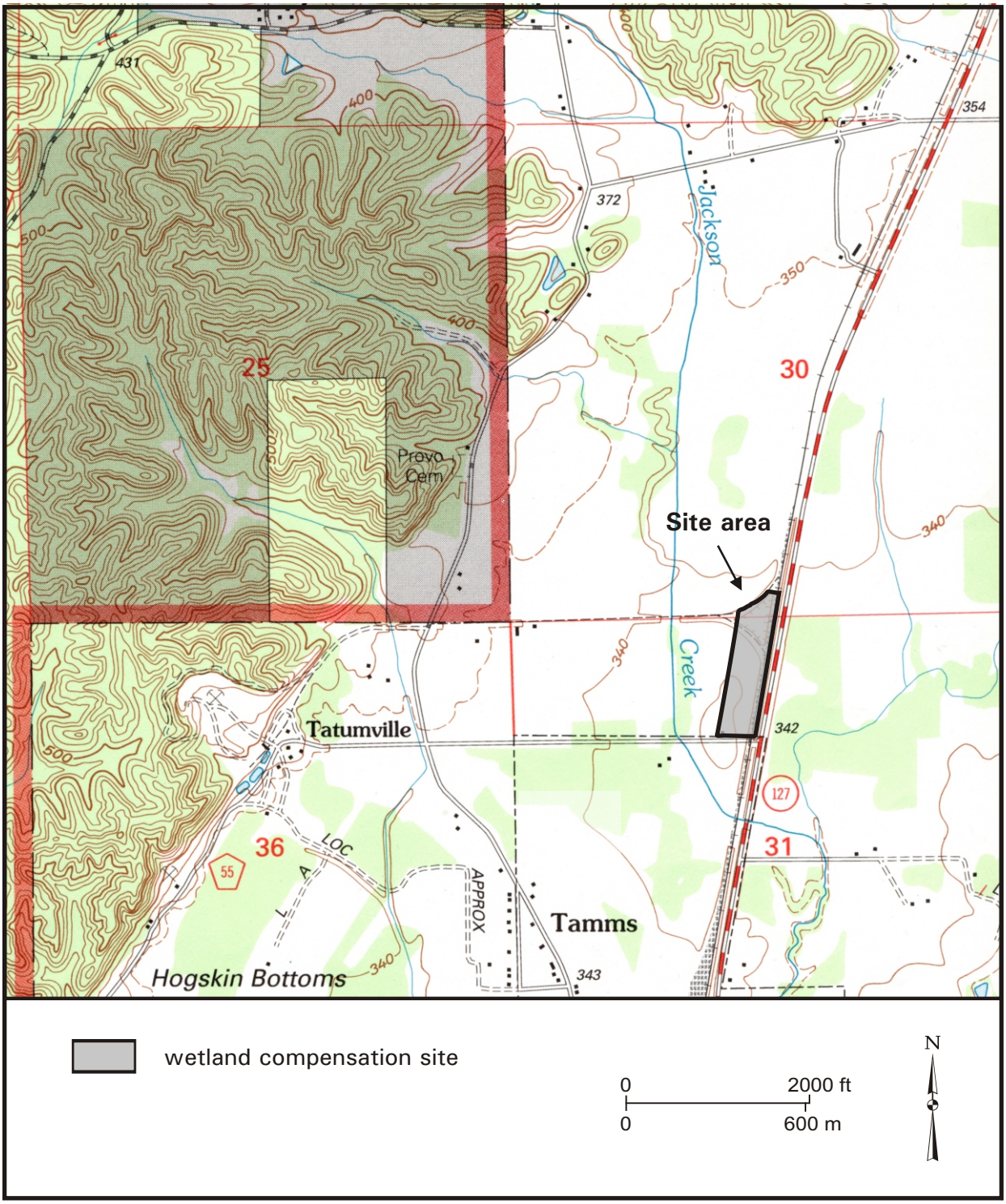
Tamms Wetland Compensation Site

(FAS 1907)

General Study Area and Vicinity

from the USGS Topographic Series, Mill Creek, IL 7.5-minute Quadrangle (USGS 1996).

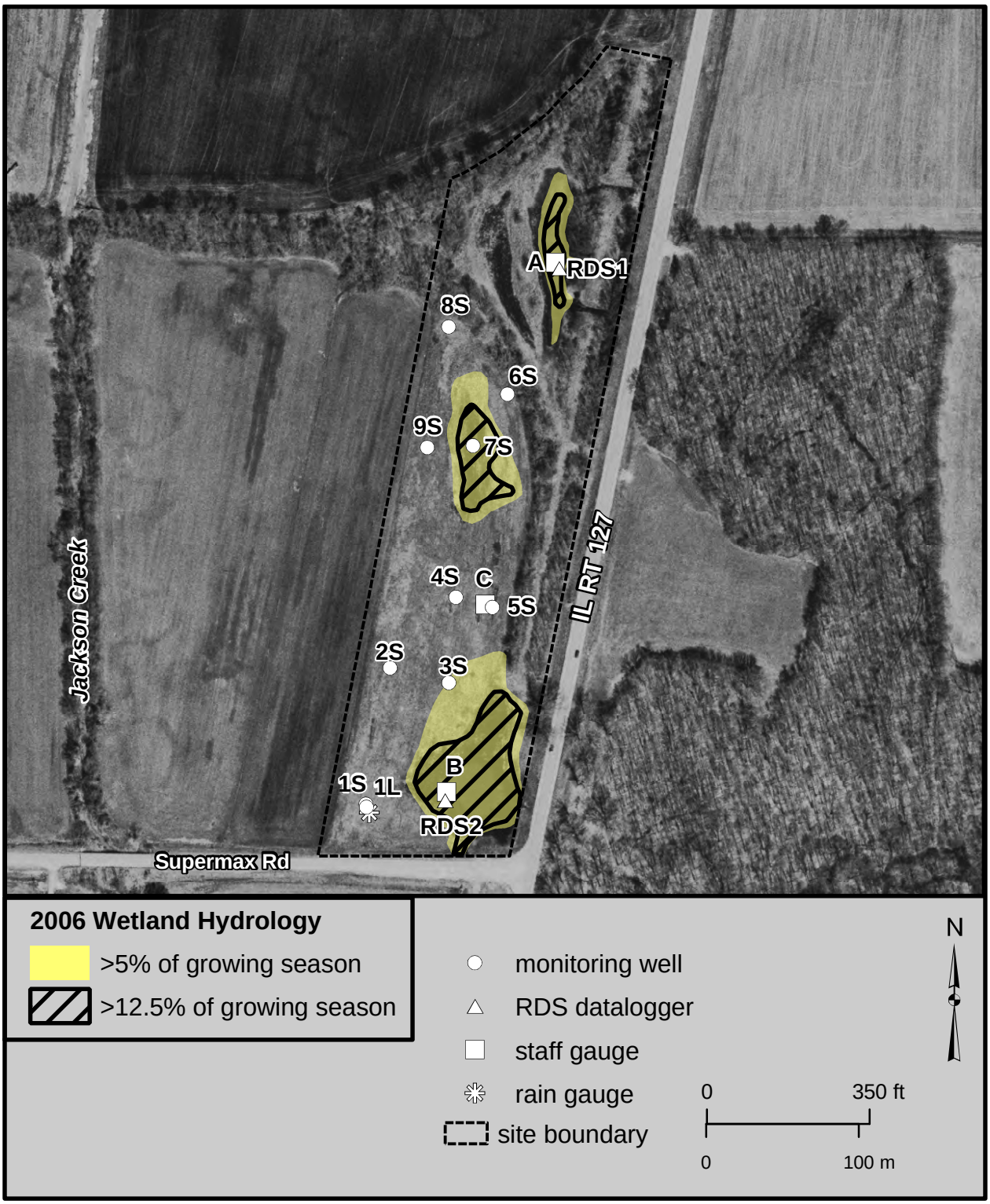
contour interval is 20 feet



Tamms Wetland Compensation Site
(FAS 1907)

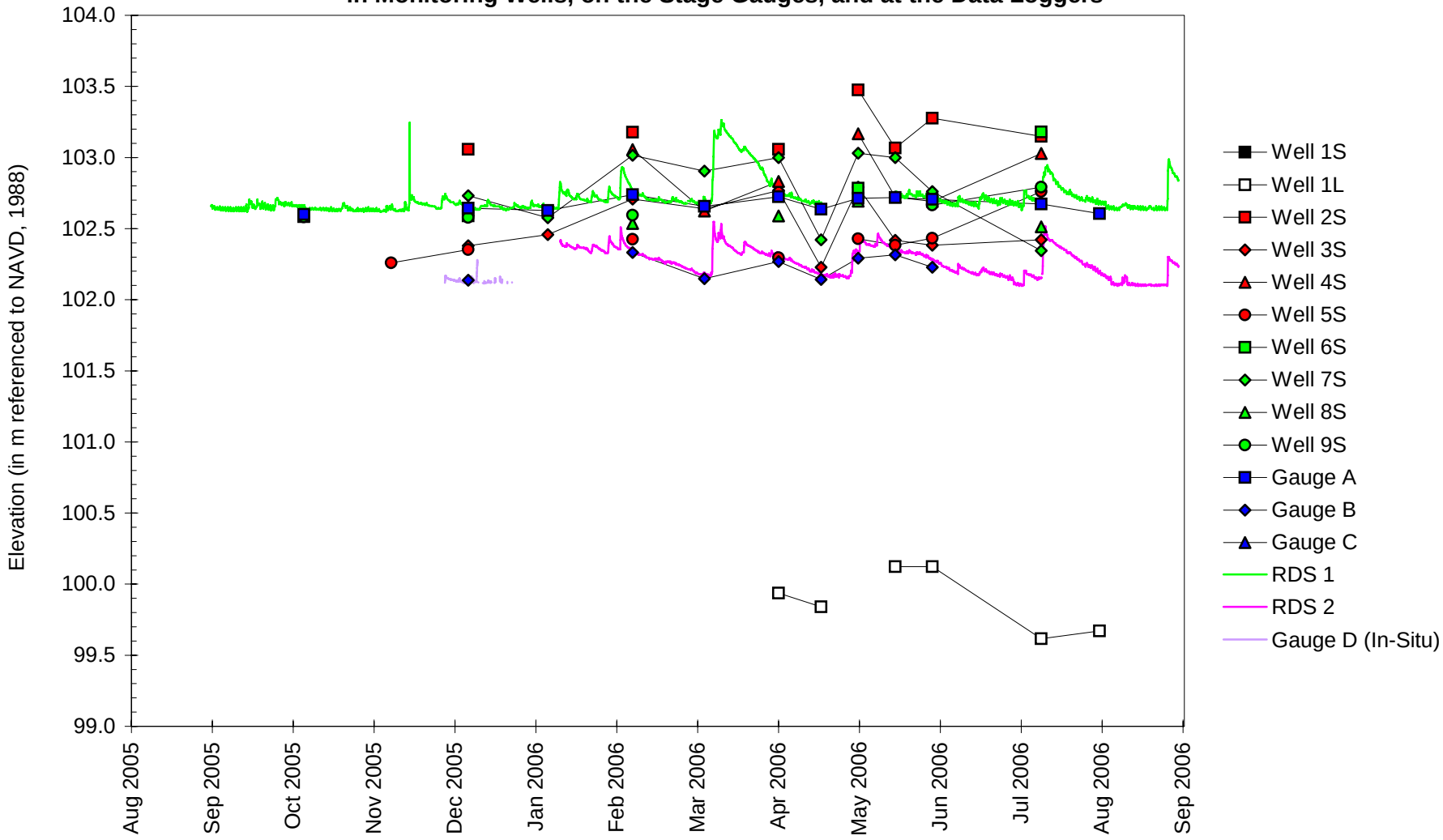
Estimated Areal Extent of 2006 Wetland Hydrology

map based on USGS digital orthophotograph, Mill Creek SE quarter quadrangle
from 3/31/2005 aerial photography and ISGS topography (ISGS 2006).

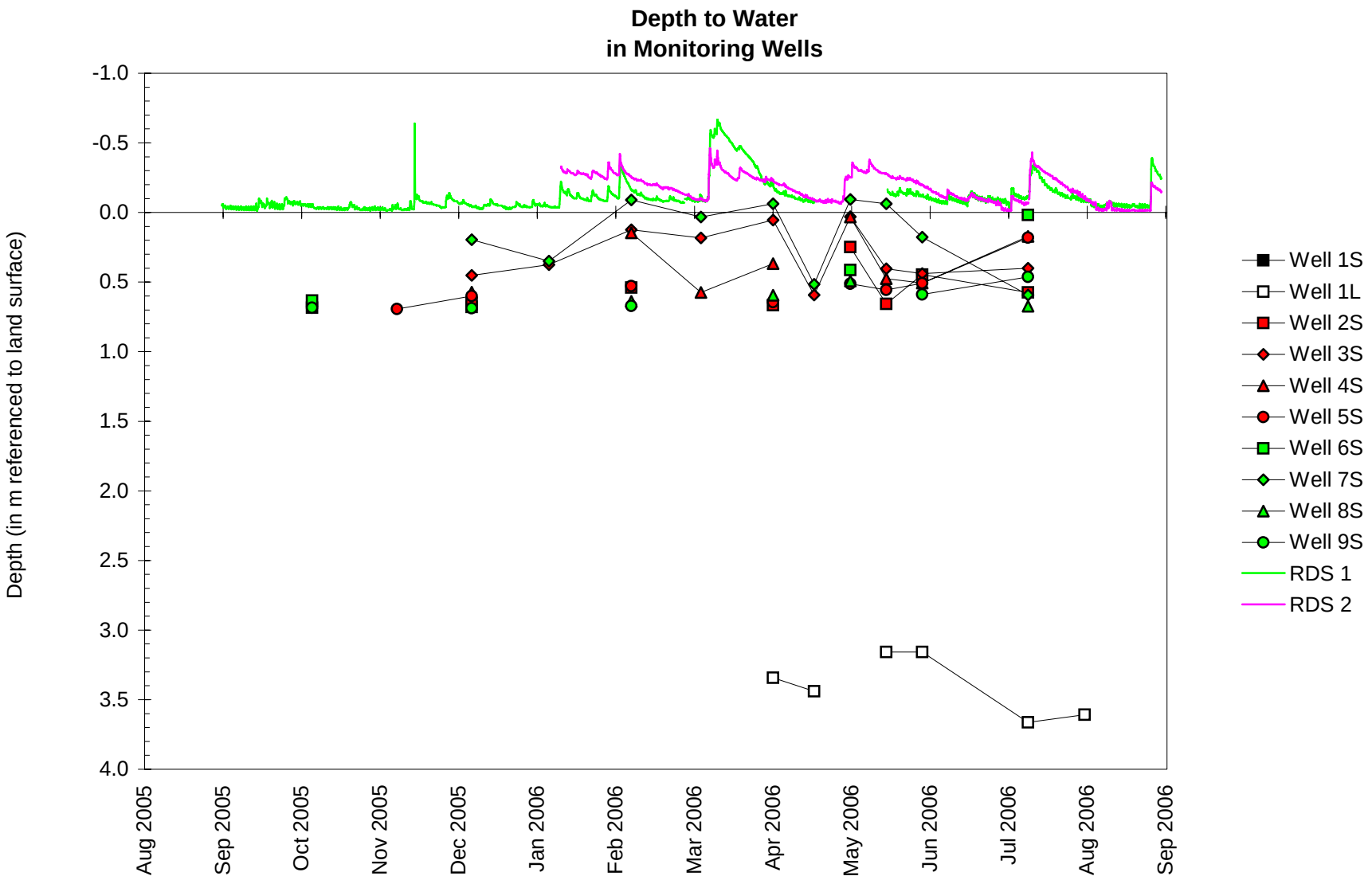


Tamms Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Monitoring Wells, on the Stage Gauges, and at the Data Loggers

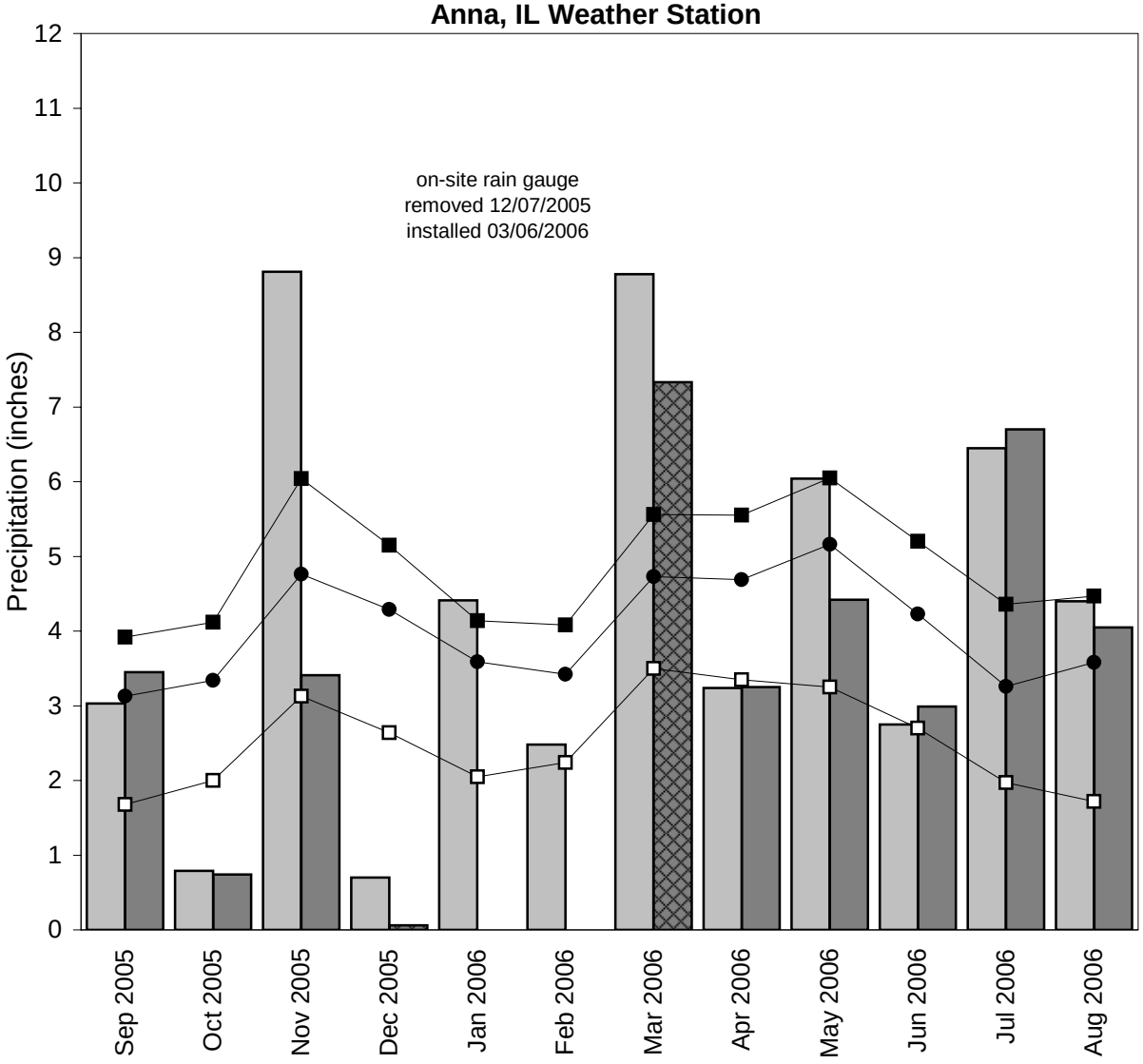


Tamms Wetland Compensation Site
September 1, 2005 to September 1, 2006



Tamms Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Anna, IL Weather Station



monthly precipitation recorded at weather station (Midwestern Regional Climate Center)

monthly precipitation recorded on site by ISGS

1971-2000 monthly 30% above average threshold (National Water and Climate Center)

1971-2000 monthly average precipitation (National Water and Climate Center)

1971-2000 monthly 30% below average threshold (National Water and Climate Center)

data incomplete

Graph last updated October 13, 2006

FREEPORT BYPASS WEST **ISGS #72**
POTENTIAL WETLAND COMPENSATION SITE 6W
FAP 301
Sequence #10487
Stephenson County, near Freeport, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: not assigned

SITE HISTORY

- Fall 2003: ISGS was tasked by IDOT to monitor wetland hydrology, and to perform a Level II hydrogeologic assessment of the potential wetland mitigation at this site.

- December 2003: ISGS monitoring network was installed. Locations of monitoring stations were determined with a GPS unit by ISGS, and a topographic survey of the site was conducted by IDOT during the fall of 2003.

- Summer 2006: Tree planting was completed.

WETLAND HYDROLOGY CALCULATION FOR 2006

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2006 growing season is 2.3 ha (5.7 ac) out of a total site area of 9.6 ha (23.6 ac). The area that satisfied wetland hydrology criteria for greater than 12.5% of the 2006 growing season is also 2.3 ha (5.7 ac). These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in Freeport, Illinois, is April 13, and the season lasts 183 days; 5% of the growing season is 9 days, and 12.5% of the growing season is 23 days.

- Total precipitation at the nearby Wastewater Treatment Plant Weather Station in Freeport, Illinois was approximately 106% of normal for the monitoring period of September 2005 through August 2006. Precipitation at this station was below normal in September, October, and December 2005, and in February, May, and August 2006. Precipitation amounts were above normal for the remaining months of the 2005–2006 monitoring period.

- In 2006, water levels measured in soil-zone wells 2S, 2VS, 7S, 9S and 10S satisfied the wetland hydrology criteria for greater than 5% of the growing season. Water levels in all of these wells except 7S also satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

- Water-level records for the data-logger at Gauge C (RDS) indicated inundation for elevations below approximately 230.68 m (756.82 ft) for a duration that satisfied the wetland hydrology criteria for greater than 5% of the growing season. Additionally, data from Gauge C indicated inundation for elevations below approximately 230.66 m (756.76 ft) for a duration that satisfied the wetland hydrology criteria for greater than 12.5% of the growing season.

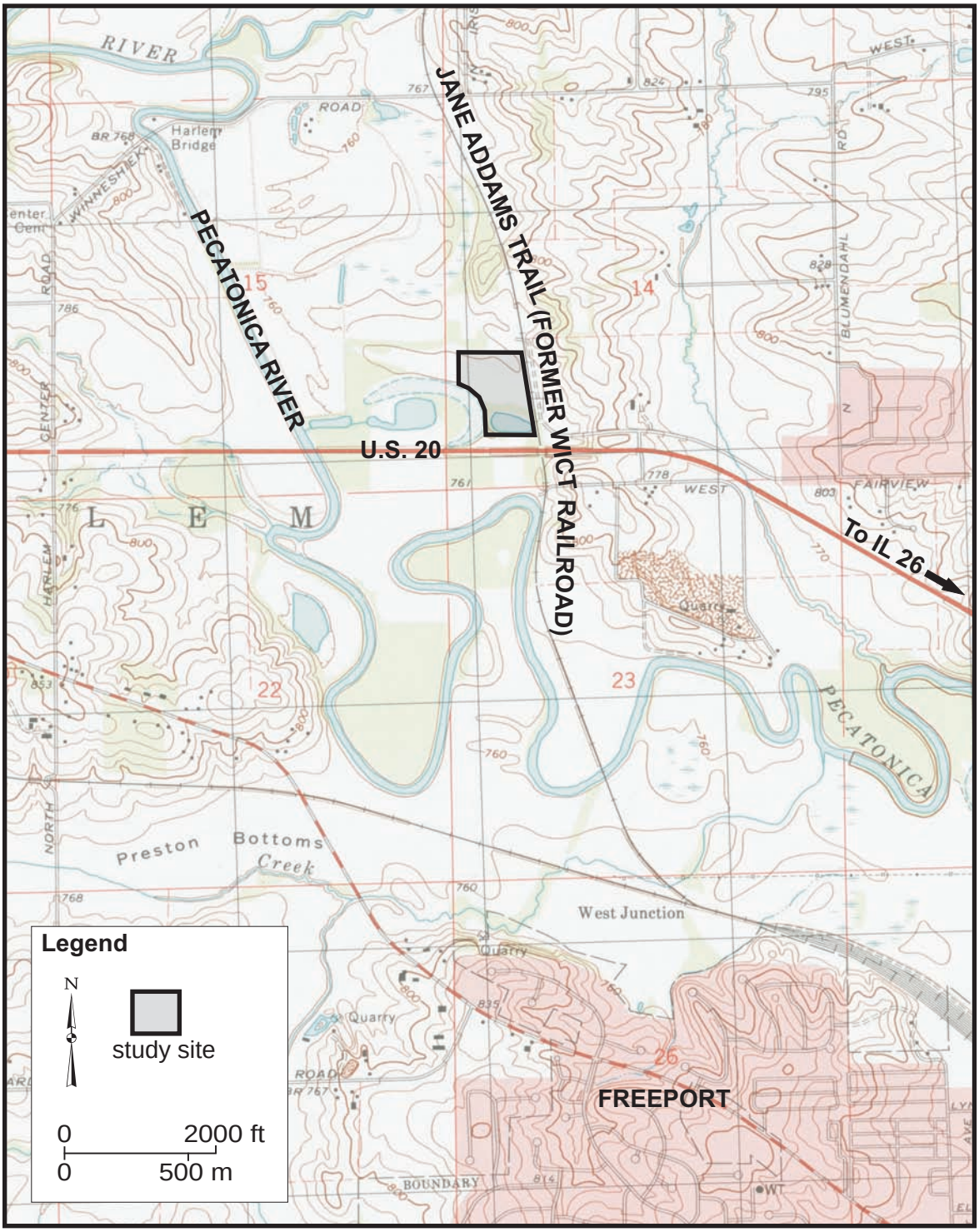
PLANNED FUTURE ACTIVITIES

- A Level II hydrogeological characterization report is in review.
- Monitoring is expected to continue until no longer required by IDOT.

Freeport Bypass West Wetland Compensation Site 6W
(FAS 301)

General Study Area and Vicinity

from the USGS Topographic Series, Freeport West, IL 7.5-minute Quadrangle (USGS 1998)
contour interval is 10 feet

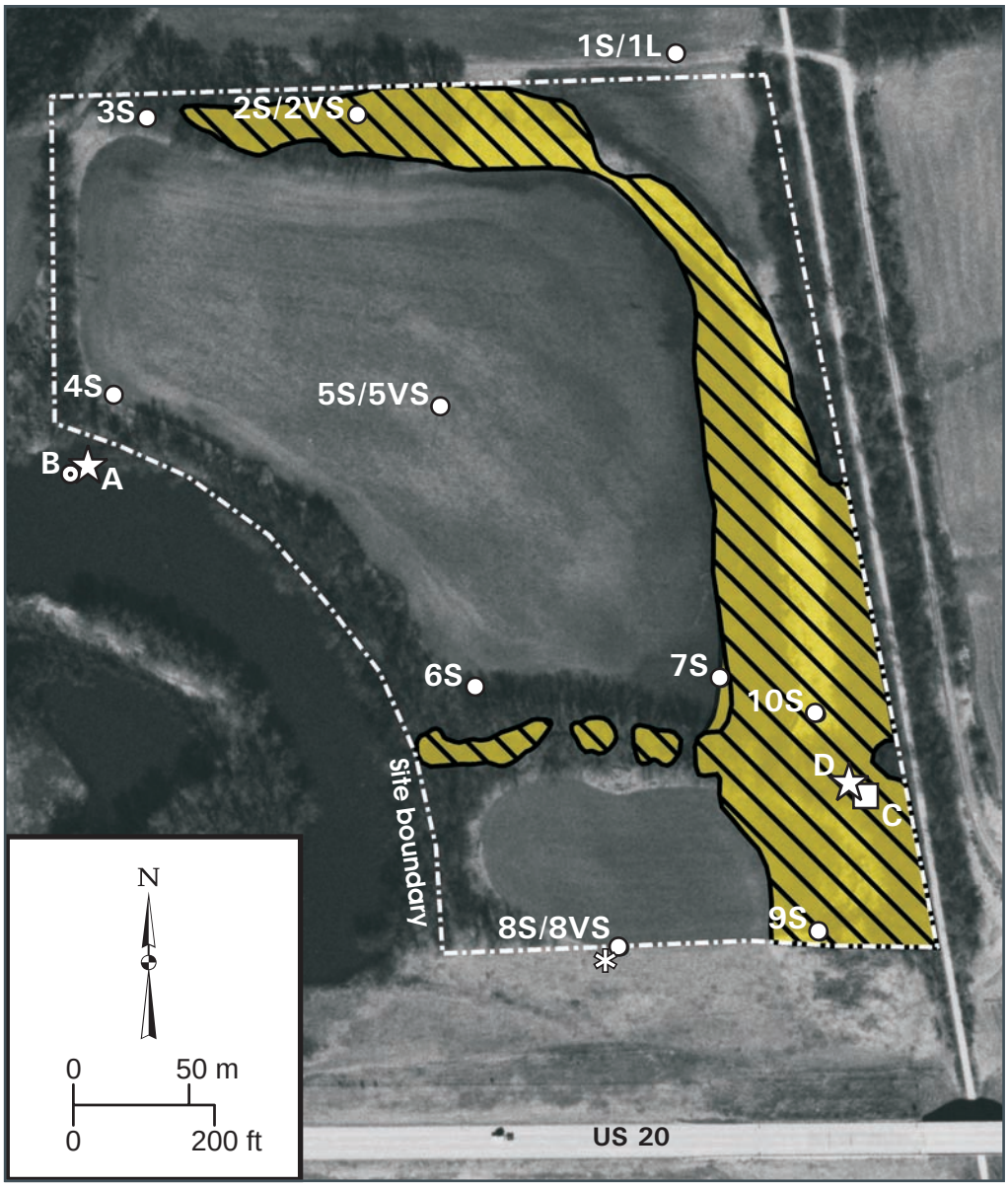


Freeport Bypass West Wetland Compensation Site 6W
(FAS 301)

Estimated Areal Extent of 2006 Wetland Hydrology

based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Freeport West NE quarter quadrangle (ISGS 2005)



○ ISGS monitoring well

□ RDS data logger

☆ Staff gauge (4.0 ft)

⊙ In-Situ pressure transducer

❄ Rain gauge

2006 Wetland Hydrology

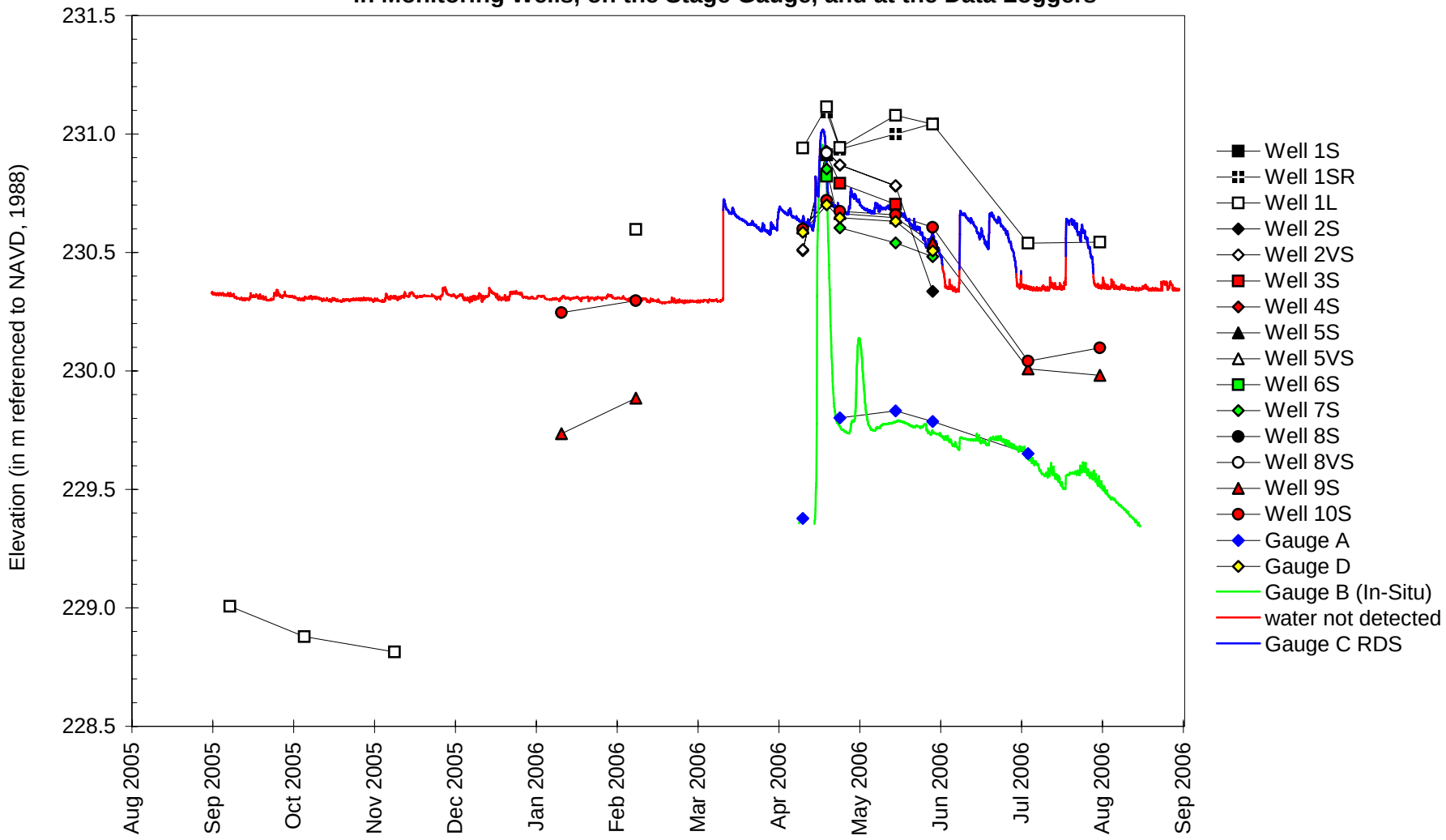
> 5% of the growing season

> 12.5% of the growing season

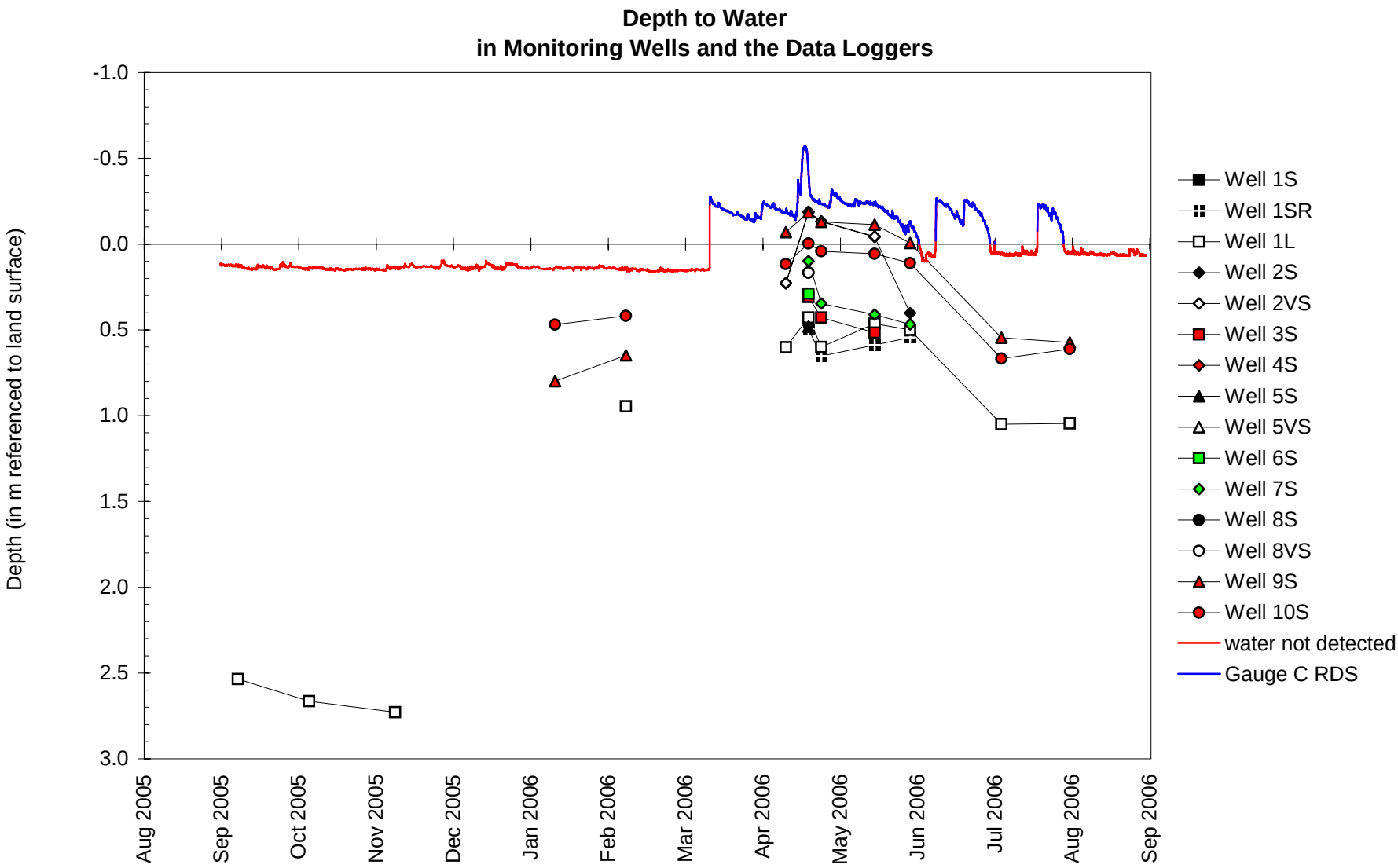
Freeport Bypass West Potential Wetland Compensation Site 6W

September 1, 2005 to September 1, 2006

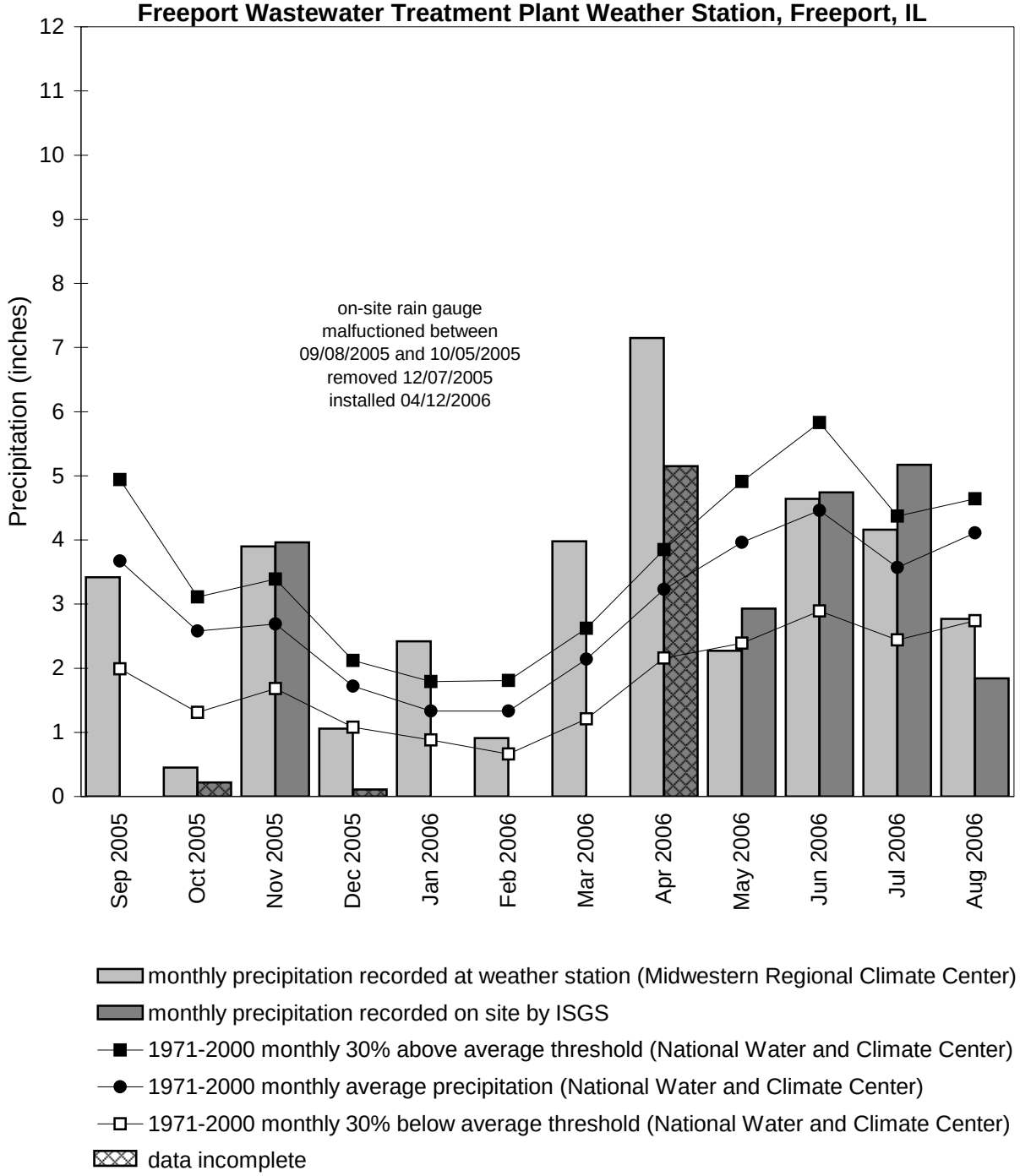
Water-Level Elevations
in Monitoring Wells, on the Stage Gauge, and at the Data Loggers



Freeport Bypass West Potential Wetland Compensation Site 6W
September 1, 2005 to September 1, 2006



Freeport Bypass West
Potential Wetland Compensation Site 6W
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Freeport Wastewater Treatment Plant Weather Station, Freeport, IL



Graph last updated October 13, 2006

PECATONICA RIVER FOREST PRESERVE **ISGS #73**
WETLAND COMPENSATION SITE
Harrison Avenue Extension
Sequence #3746
Winnebago County, near Pecatonica, Illinois
Primary Project Manager: Eric T. Plankell
Secondary Project Manager: Steven E. Benton

SITE HISTORY

- Summer 2003: Wetland construction was completed at the site.
- February 2005: ISGS was tasked by IDOT to monitor wetland hydrology.
- April 2005: ISGS began on-site monitoring with the installation of a monitoring network. Instrument locations were determined using a Trimble XR Pro GPS unit.

WETLAND HYDROLOGY CALCULATION FOR 2006

The estimated total area that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2006 growing season is 2.5 ha (6.2 ac) out of a total site area of approximately 6.9 ha (17.1 ac). The same acreage also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates are based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Freeport, Illinois is April 13, and the season lasts 183 days; 5% of the growing season is 9 days, and 12.5% of the growing season is 23 days.
- Total precipitation at the nearby Wastewater Treatment Plant Weather Station in Freeport, Illinois, was approximately 106% of normal for the monitoring period of September 2005 through August 2006. Precipitation at this station was below normal in September, October, and December 2005, and in February, May, and August 2006. Precipitation amounts were above normal for the remaining months.
- In 2006, water levels measured in soil-zone wells 1S, 2S, 3S, 4S, 5S, 6S, and 14S satisfied wetland hydrology criteria for greater than 12.5% of the growing season. No additional wells satisfied wetland hydrology criteria for greater than 5% of the growing season.
- Water-level records for the data-logger at Gauge C (RDS) indicated inundation at elevations below approximately 224.95 m (738.02 ft) for greater than 5% of the growing season. Additionally, inundation was indicated at elevations below approximately 224.93 m (737.96 ft) for greater than 12.5% of the growing season
- Visual observations made on April 21, 2006, along with surface-water data from Gauges C, D, E, F, and H, indicated that water levels along the Pecatonica River were high enough to cause flooding in portions of both the northern and southern mitigation areas at the site. The river did not appear to overtop its banks; instead, water entered the southern mitigation area through the small inlet pipe near well 11S, and water entered the northern mitigation area as a result of back-flooding along the western drainage ditch. In addition to this flooding, water levels recorded at the site in 2006 were also supplemented by higher than

normal rainfall in April, and the continual input of water to the northern mitigation area from the culvert under Blair Road.

- Approximately 0.2 ha (0.4 ac) of the estimated area of the site that satisfied wetland hydrology criteria lies outside the excavation for the northern mitigation area. For the purposes of this report, the boundaries of the mitigation areas were reproduced from engineering plans drawn by Hey and Associates, Inc, and then altered slightly to match features observed in the field and on aerial photography of the site taken in 2005.

PLANNED FUTURE ACTIVITIES

- Hydrogeologic monitoring will continue at the site until no longer required by IDOT.

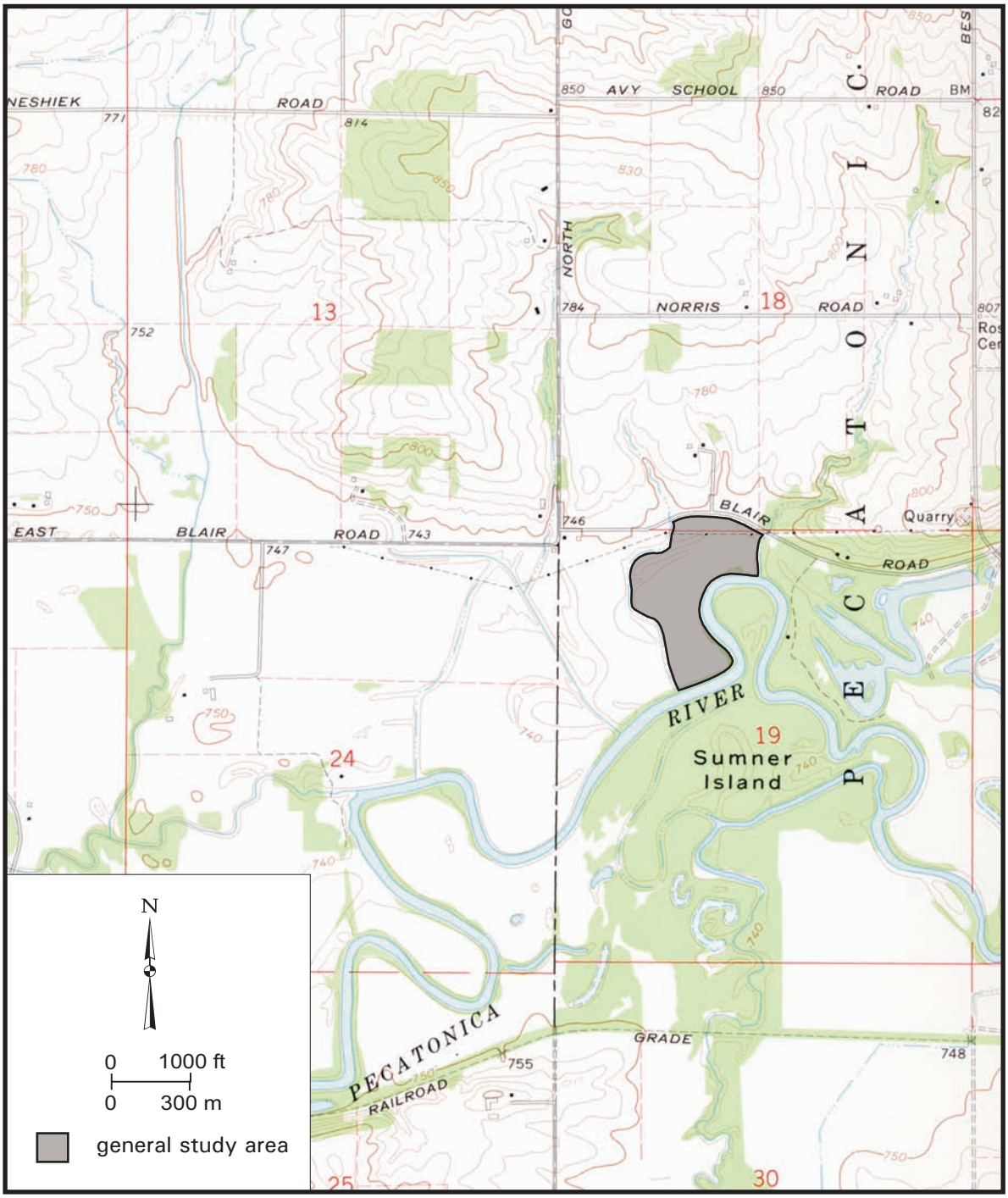
Pecatonica River Forest Preserve Wetland Compensation Site

[Sequence #3746]

General Study Area and Vicinity

from the USGS Topographic Series, Ridott, IL 7.5-minute Quadrangle (USGS 1971)

contour interval is 10 feet

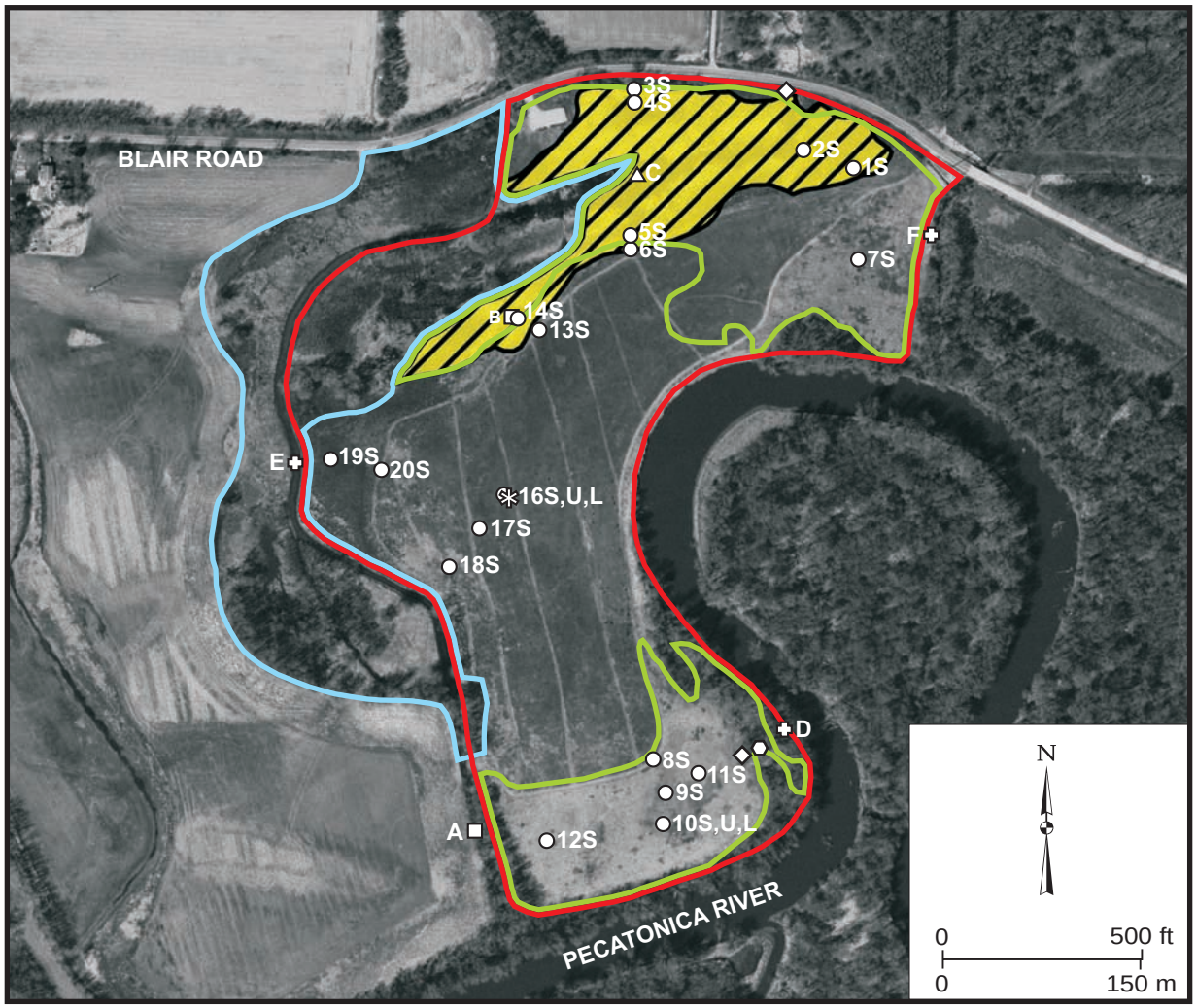


Pecatonica River Forest Preserve Wetland Compensation Site (Sequence #3746)

Estimated Areal Extent of 2006 Wetland Hydrology

based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Ridott NE quarter quadrangle
produced from 4/8/99 aerial photography (ISGS 2005)



2006 Wetland Hydrology

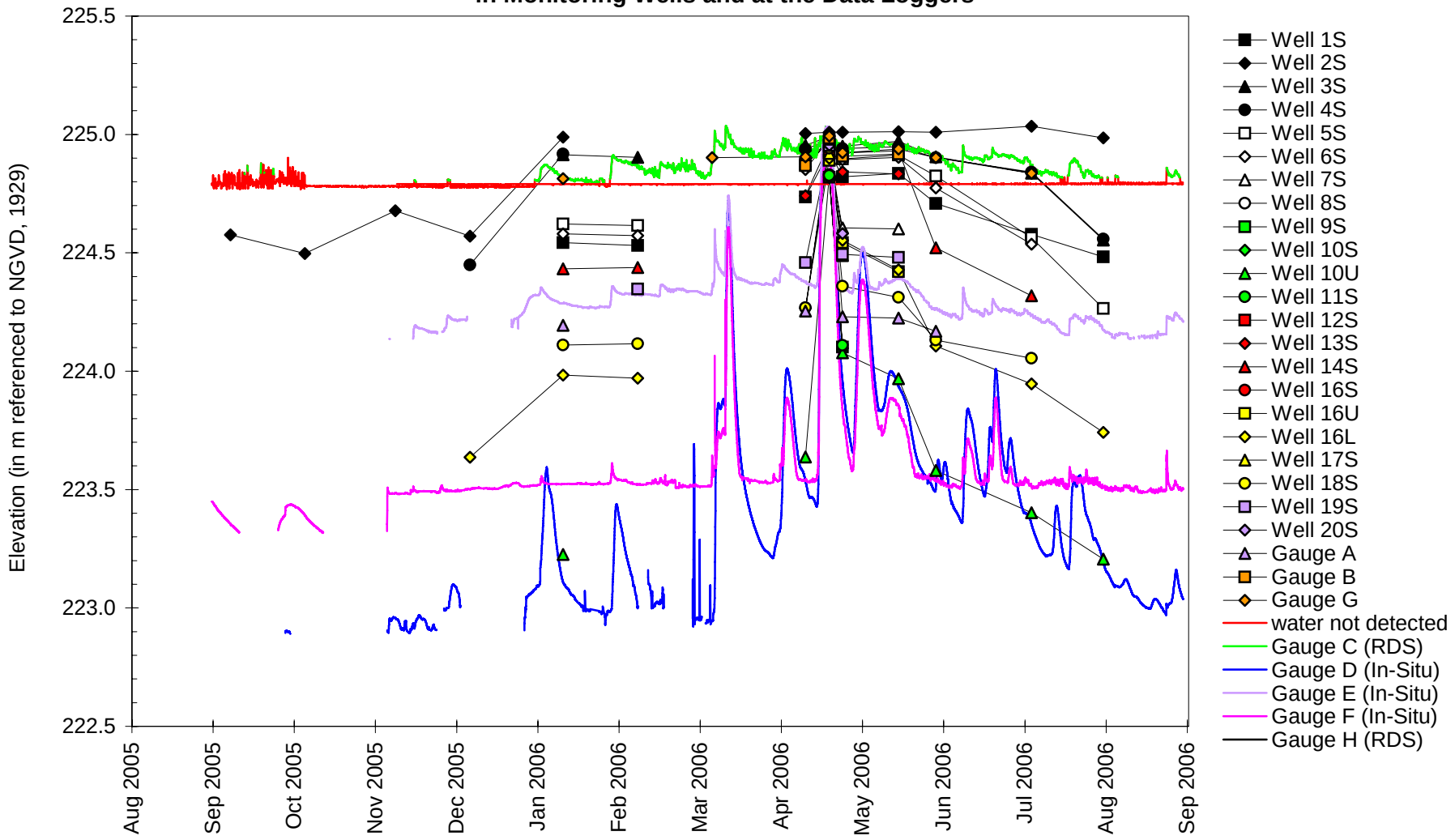
- >12.5% of the growing season
- >5% of the growing season
- preexisting wetland
- mitigation areas
- site boundary

- monitoring well
- staff gauge
- RDS data logger
- Davis rain gauge
- In-Situ data logger
- ISGS benchmark
- culvert

Pecatonica River Forest Preserve Wetland Compensation Site

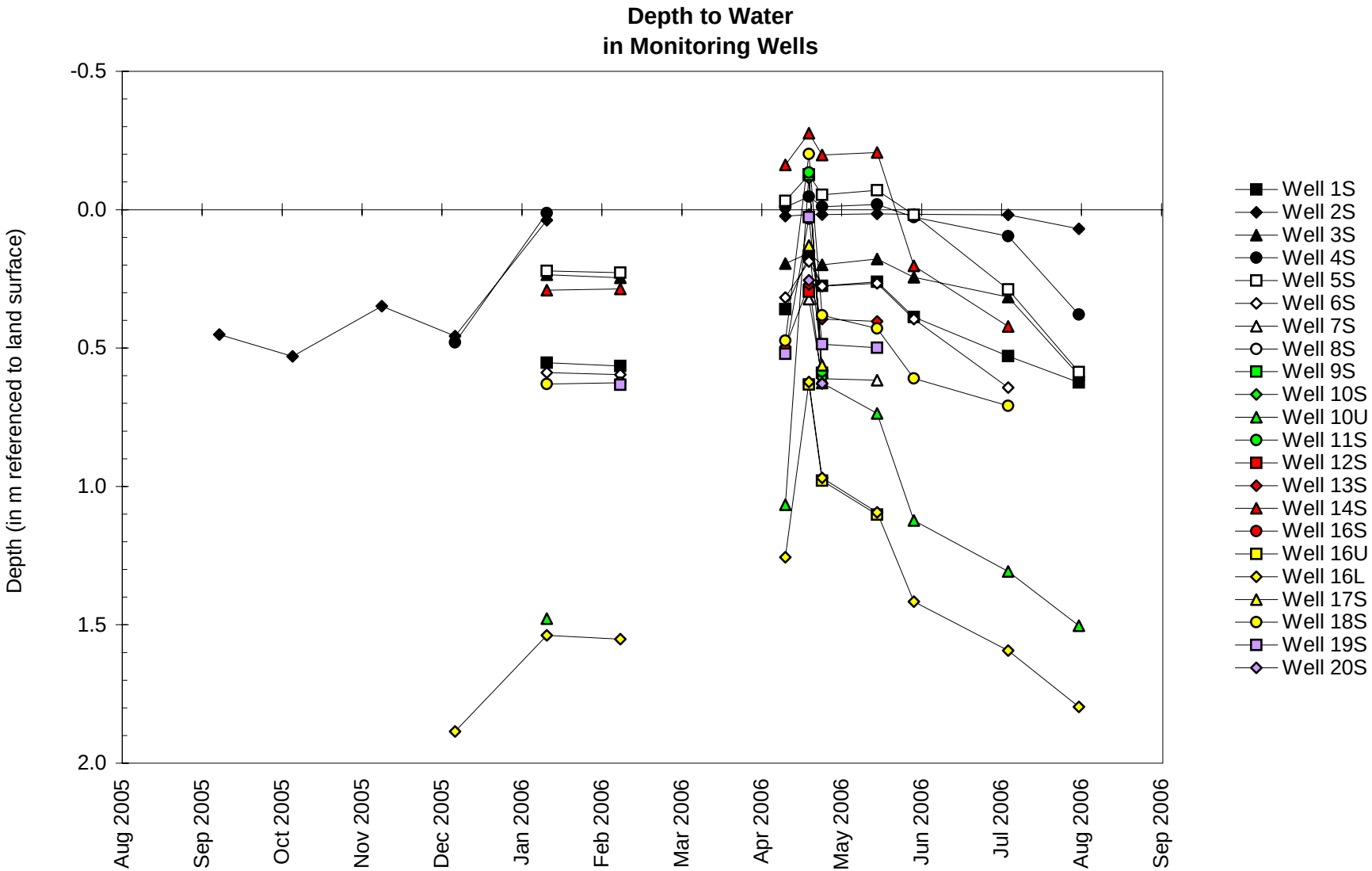
September 1, 2005 to September 1, 2006

Water-Level Elevations
in Monitoring Wells and at the Data Loggers



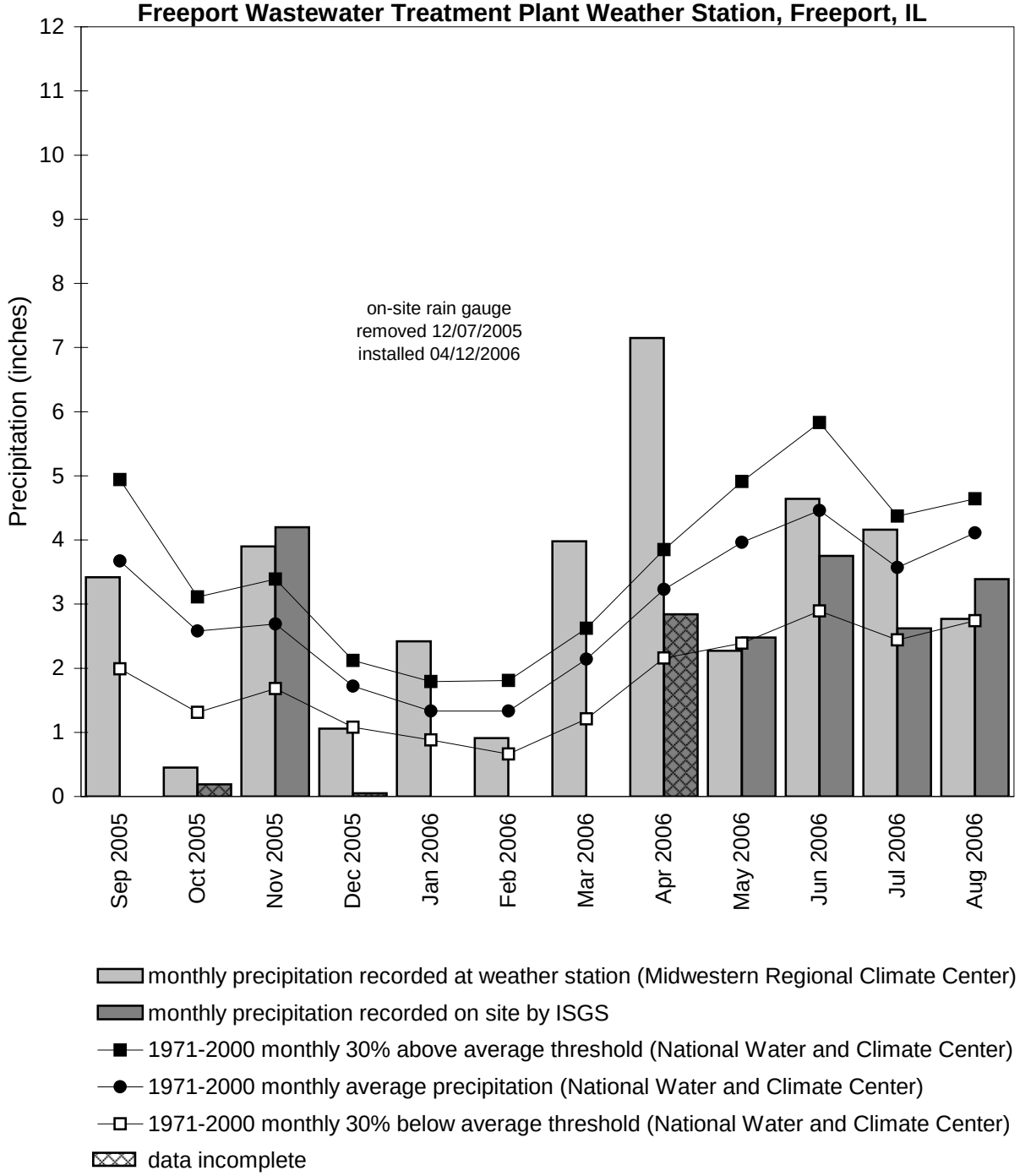
Pecatonica River Forest Preserve Wetland Compensation Site

September 1, 2005 to September 1, 2006



Pecatonica River Forest Preserve
Wetland Compensation Site
September 2005 through August 2006

Total Monthly Precipitation Recorded On Site and at the Freeport Wastewater Treatment Plant Weather Station, Freeport, IL



Graph last updated October 13, 2006

SUGAR CAMP CREEK **ISGS #74**
WETLAND COMPENSATION SITE
FAP 312
Sequence #9282
Franklin County, Northern Township, Illinois
Primary Project Manager: Geoffrey E. Pociask
Secondary Project Manager: not assigned

SITE HISTORY

- December 2004: ISGS submitted an Initial Site Evaluation Report to IDOT.

- Spring 2005: IDOT tasked ISGS to conduct a Level II hydrogeologic characterization of the site and to prepare a draft wetland banking instrument for the site. Water-level monitoring was initiated in March 2005.

- May 2005: IDOT blocked the north–south trending ditch in the southeast portion of the parcel for development of the FAP 312 (Illinois Route 3, Union and Alexander Counties) wetland compensation site.

- July 2005: IDOT issued a separate tasking order for hydrologic monitoring of the FAP 312 wetland compensation site and post-construction water-level monitoring was initiated.

- May 2006: IDOT began work on the first phase of the proposed wetland mitigation bank. Surface drainage was blocked at the east perimeter and trees were planted over approximately 8.1 ha (20 ac) of the east central portion of the site.

- August 2006: ISGS submitted the final draft of the wetland banking instrument to IDOT.

WETLAND HYDROLOGY CALCULATION FOR 2006

We estimate that 28.8 ha (71.2 ac) of the total site area of 50.9 ha (125.7 ac), including the FAP 312 wetland compensation site, satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the growing season in 2006, whereas 3.9 ha (9.6 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. Within the 8.3-ha (20.5-ac) FAP 312 wetland compensation site, 7.9 ha (19.5 ac) satisfied wetland hydrology criteria for greater than 5% of the growing season, of which 1.8 ha (4.5 ac) satisfied wetland hydrology criteria for greater than 12.5% of the growing season. This estimate is based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Du Quoin, Illinois, is April 5 and the season lasts 207 days; 5% of the growing season is 10 days, and 12.5% of the growing season is 26 days.

- Precipitation was 87% of normal for the monitoring period. Drier than average conditions prevailed in October and December 2005 and in February, April, May, and August 2006. Precipitation was at or above normal in September and November 2005 and in January, March, June, and July 2006.

- In 2006, wells 1S, 2S, 3S, 4S, 5S, 7S, 8S, 9S, 10S, 11S, 12S, 13S, 14S, 15S, 16S, 17S, 18S, 19S, 20S, 23S, 24S, 26S, 27S, 28S, 29S, 30S, 31S, 32S, and 33S satisfied wetland hydrology criteria for greater than 5% of the growing season. Furthermore, wells 2S, 3S, 4S, 8S, 14S, 19S, and 30S satisfied wetland hydrology criteria for greater than 12.5% of the growing season.

- Data loggers in Sugar Camp Creek (Gauges A and E) indicated that portions of the site flooded on 5 occasions during the 2006 growing season. Data from these loggers indicated that duration of inundation from each of these floods was less than 5% of the growing season. Maximum stage during the growing season was 124.87 m (409.67 ft) at Gauge A and 123.95 (406.66 ft) at Gauge B on June 2, 2006.

- RDS 2 in the FAP 312 mitigation area recorded surface-water levels at or above 123.36 m (404.72 ft) for greater than 5% of the growing season, and at or above 123.31 m (404.56 ft) elevation for greater than 12.5% of the growing season.

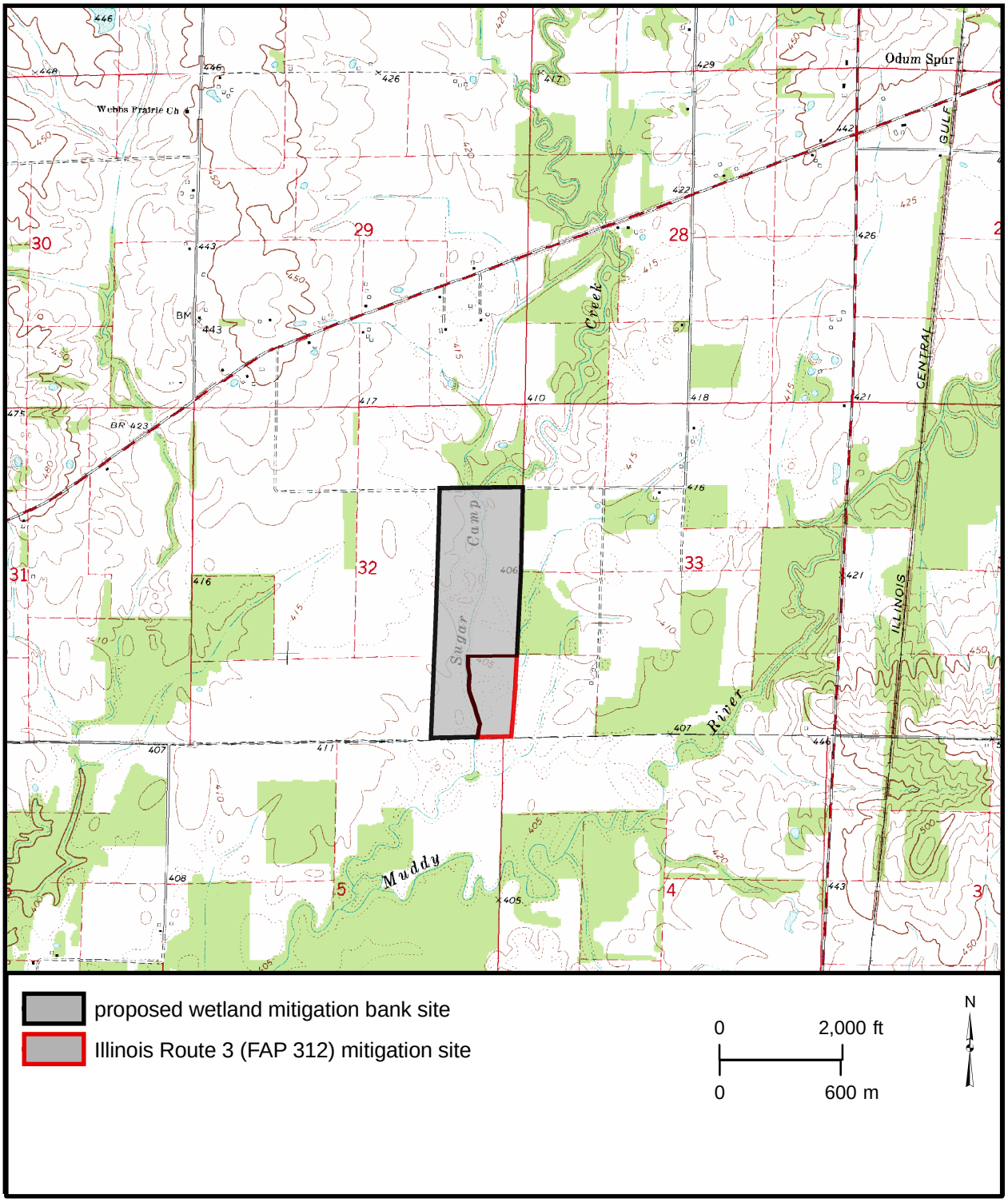
PLANNED FUTURE ACTIVITIES

- A Level II hydrogeologic characterization report is in preparation.

- Monitoring activities will continue until no longer required by IDOT.

Sugar Camp Creek Wetland Compensation Site
(FAP 312 and Proposed Wetland Mitigation Bank)
General Study Area and Vicinity

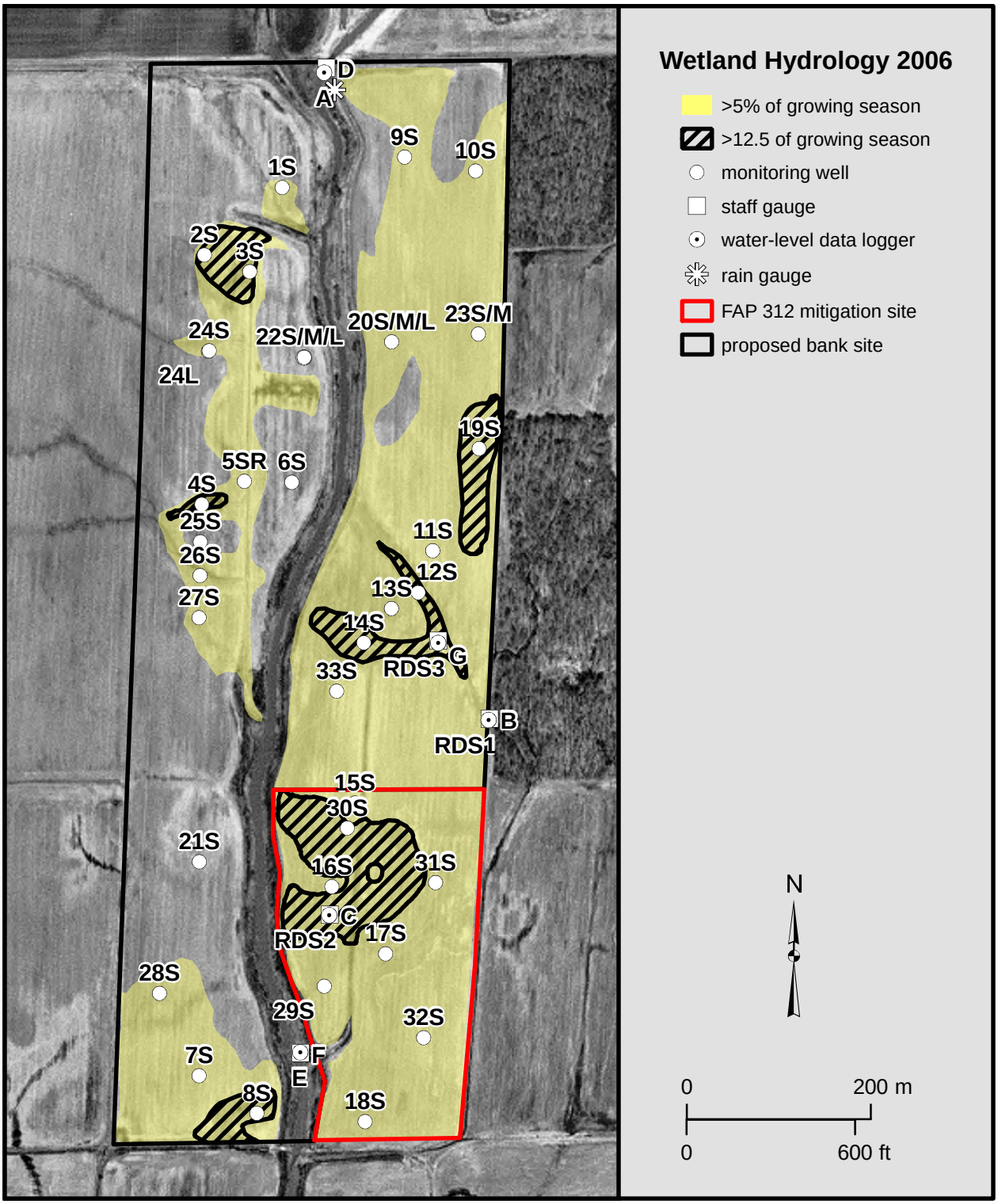
from the USGS Topographic Series, Ewing, IL 7.5-minute Quadrangle (USGS 1974).
contour interval is 10 feet



Sugar Camp Creek Wetland Compensation Site
(FAP 312 and Proposed Wetland Mitigation Bank)

Estimated Areal Extent of 2006 Wetland Hydrology

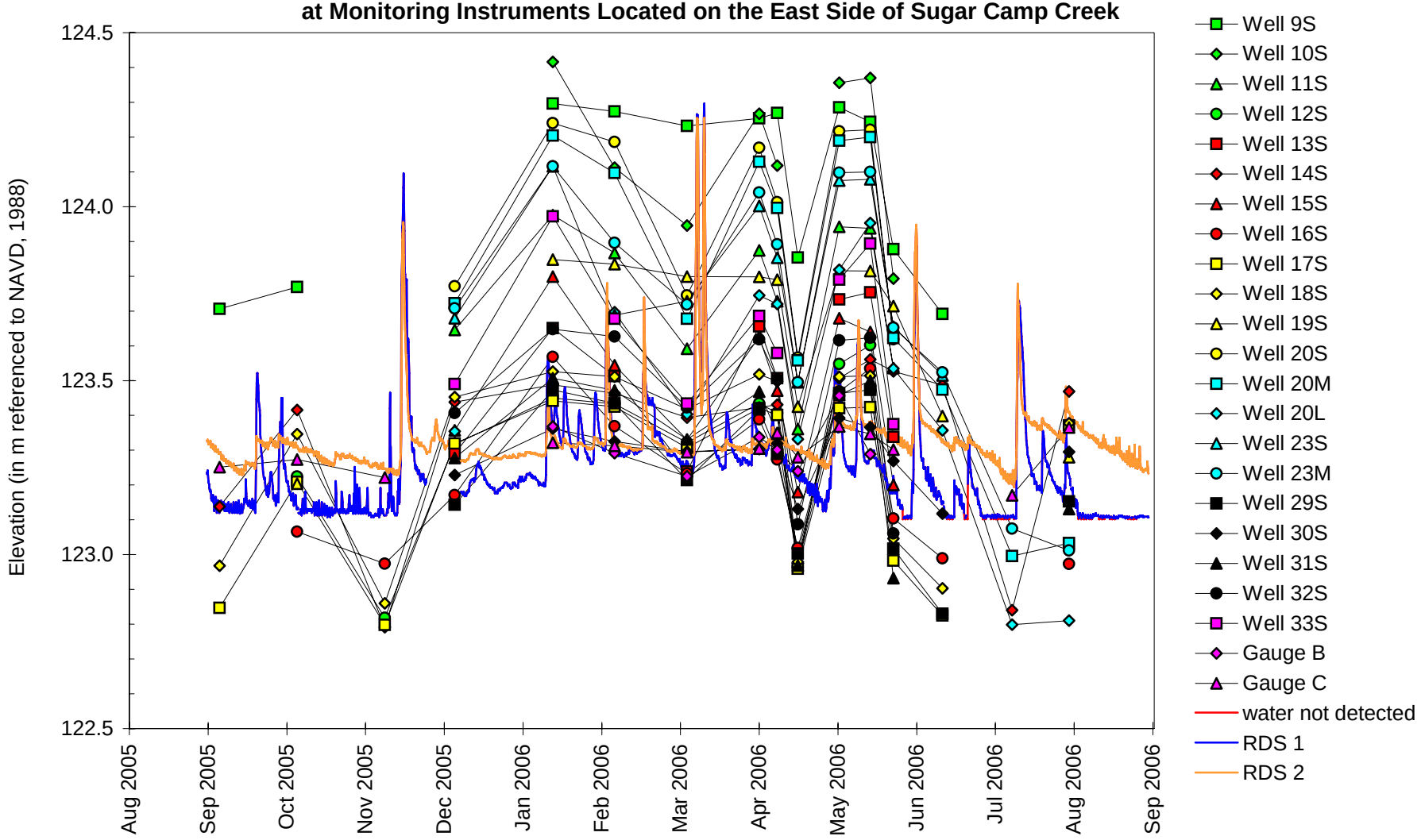
Map based on USGS digital orthophotograph, Ewing SE quarter quadrangle
aerial photography from April 1988 (ISGS 2000)



Sugar Camp Creek Wetland Compensation Site

September 1, 2005 to September 20, 2006

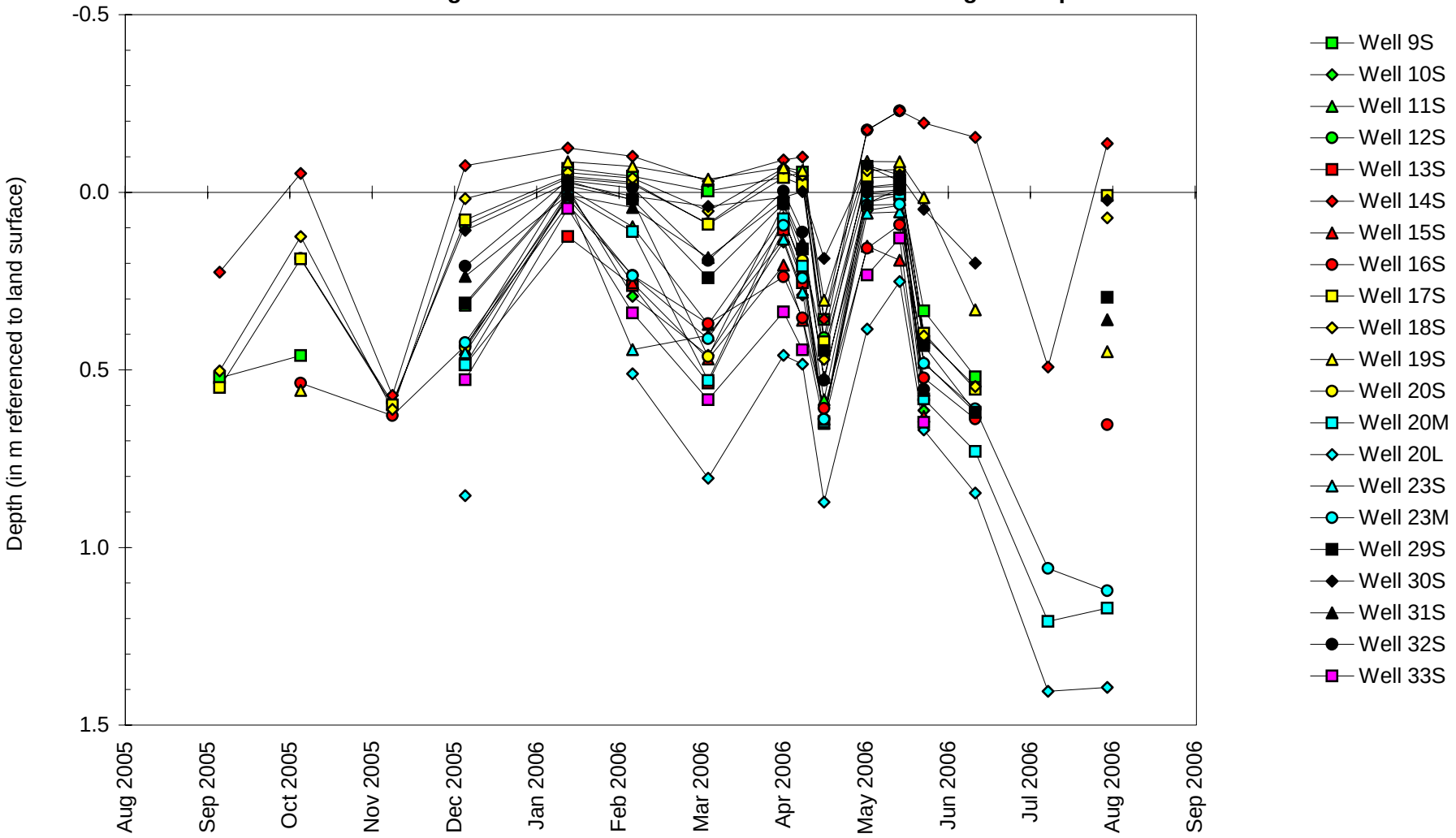
Water-Level Elevations
at Monitoring Instruments Located on the East Side of Sugar Camp Creek



Sugar Camp Creek Wetland Compensation Site

September 1, 2005 to September 20, 2006

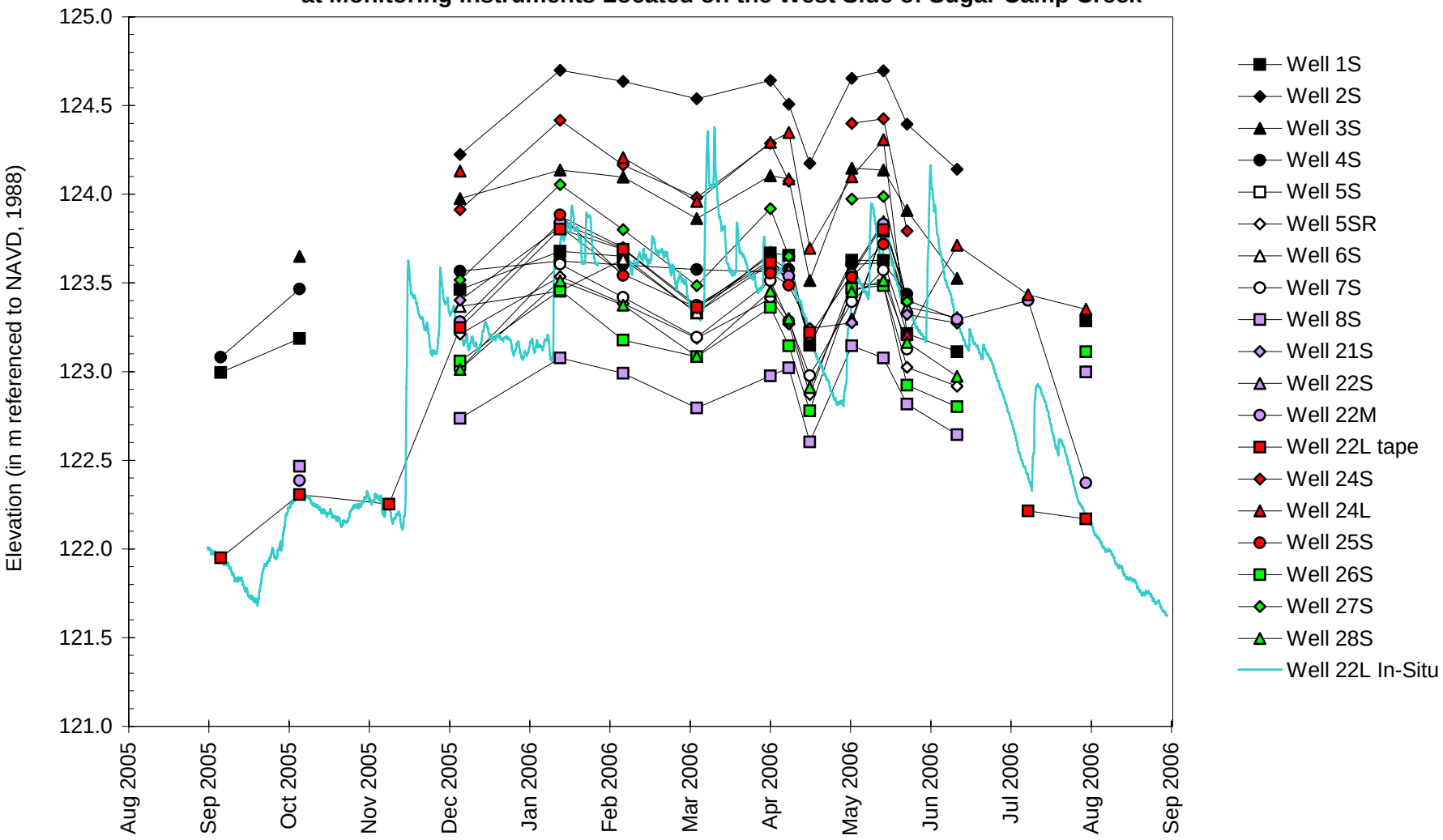
Depth to Water
at Monitoring Instruments Located on the East Side of Sugar Camp Creek



Sugar Camp Creek Wetland Compensation Site

September 1, 2005 to September 20, 2006

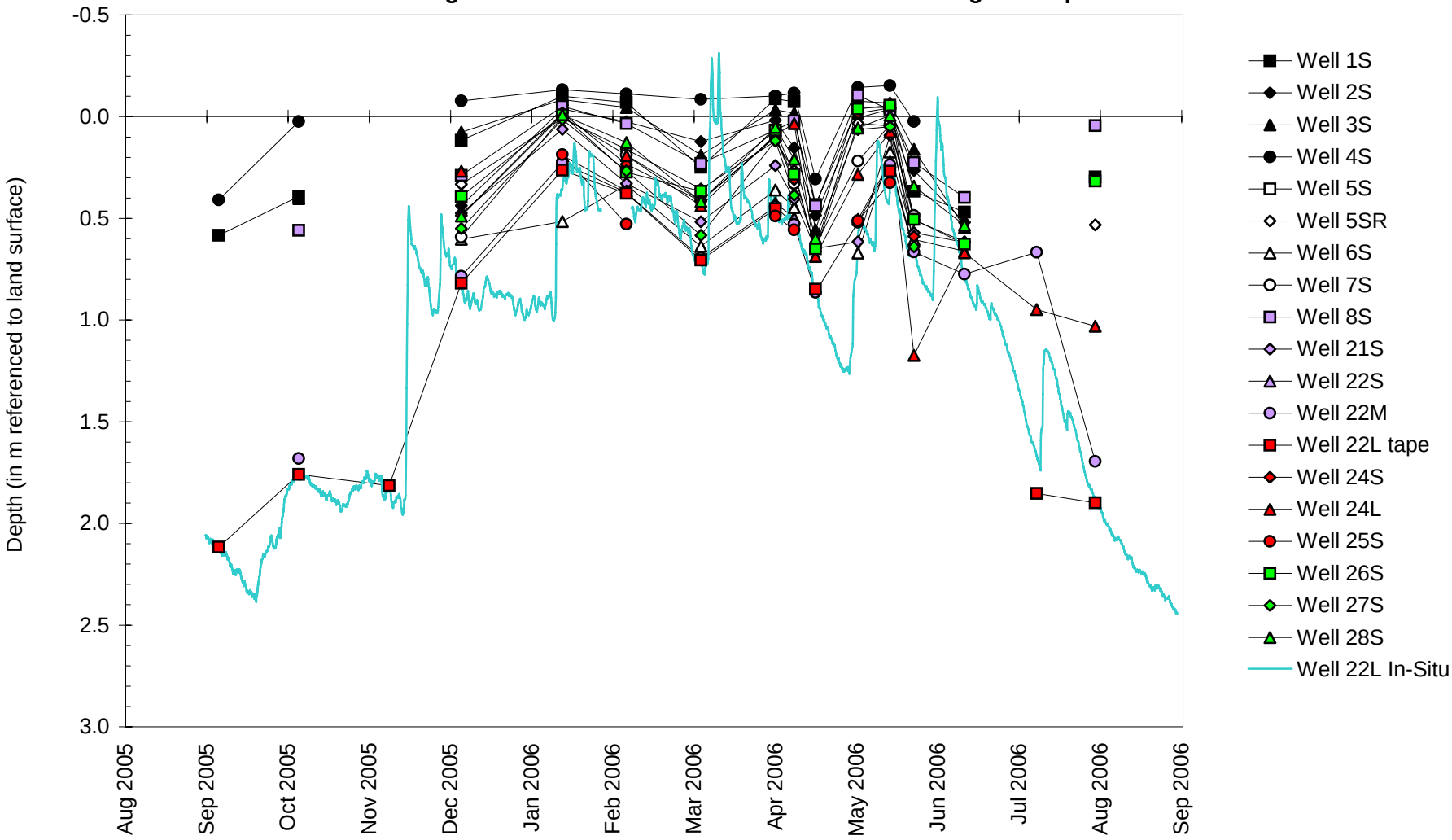
Water-Level Elevations
at Monitoring Instruments Located on the West Side of Sugar Camp Creek



Sugar Camp Creek Wetland Compensation Site

September 1, 2005 to September 20, 2006

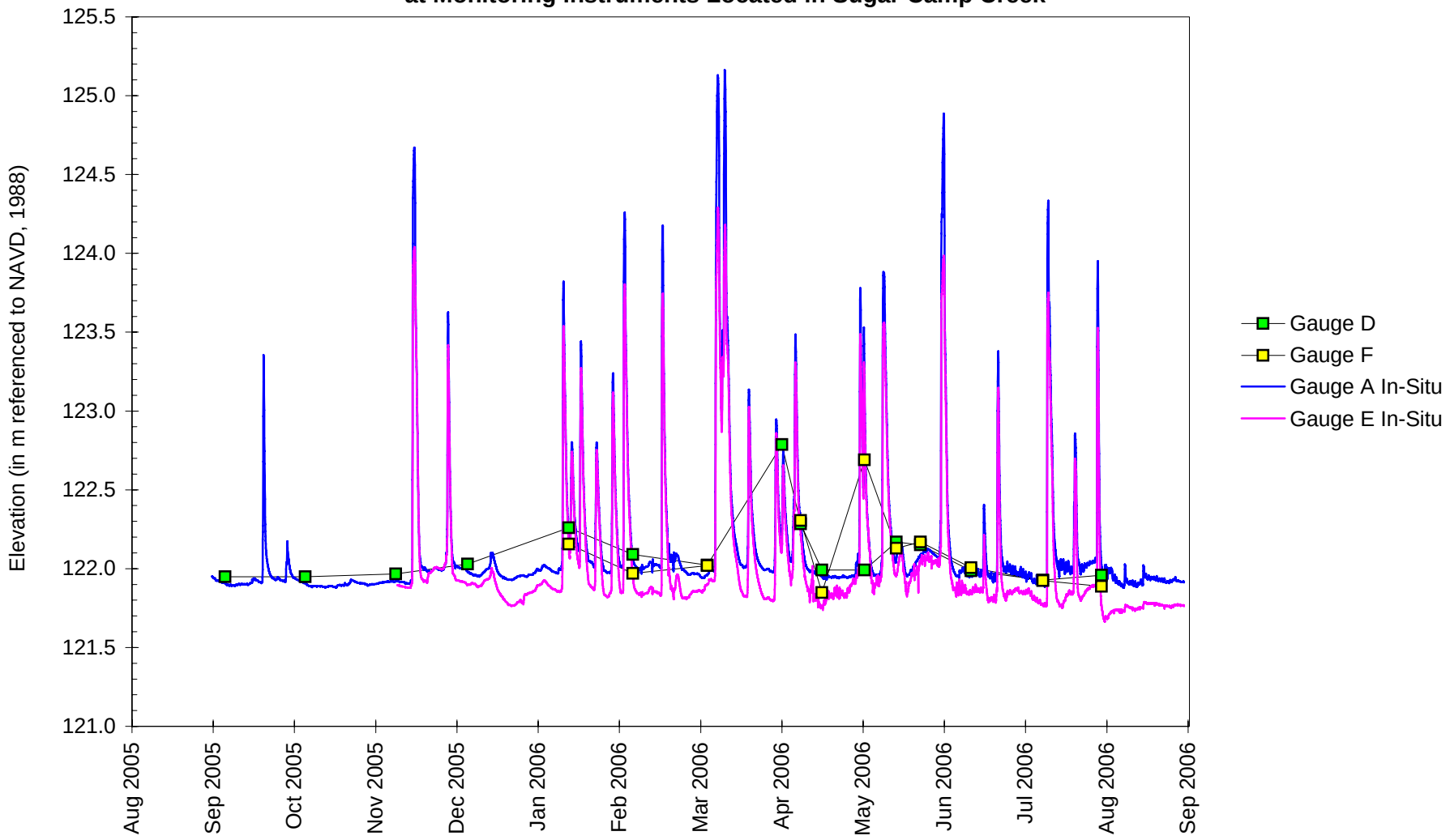
Depth to Water
at Monitoring Instruments Located on the West Side of Sugar Camp Creek



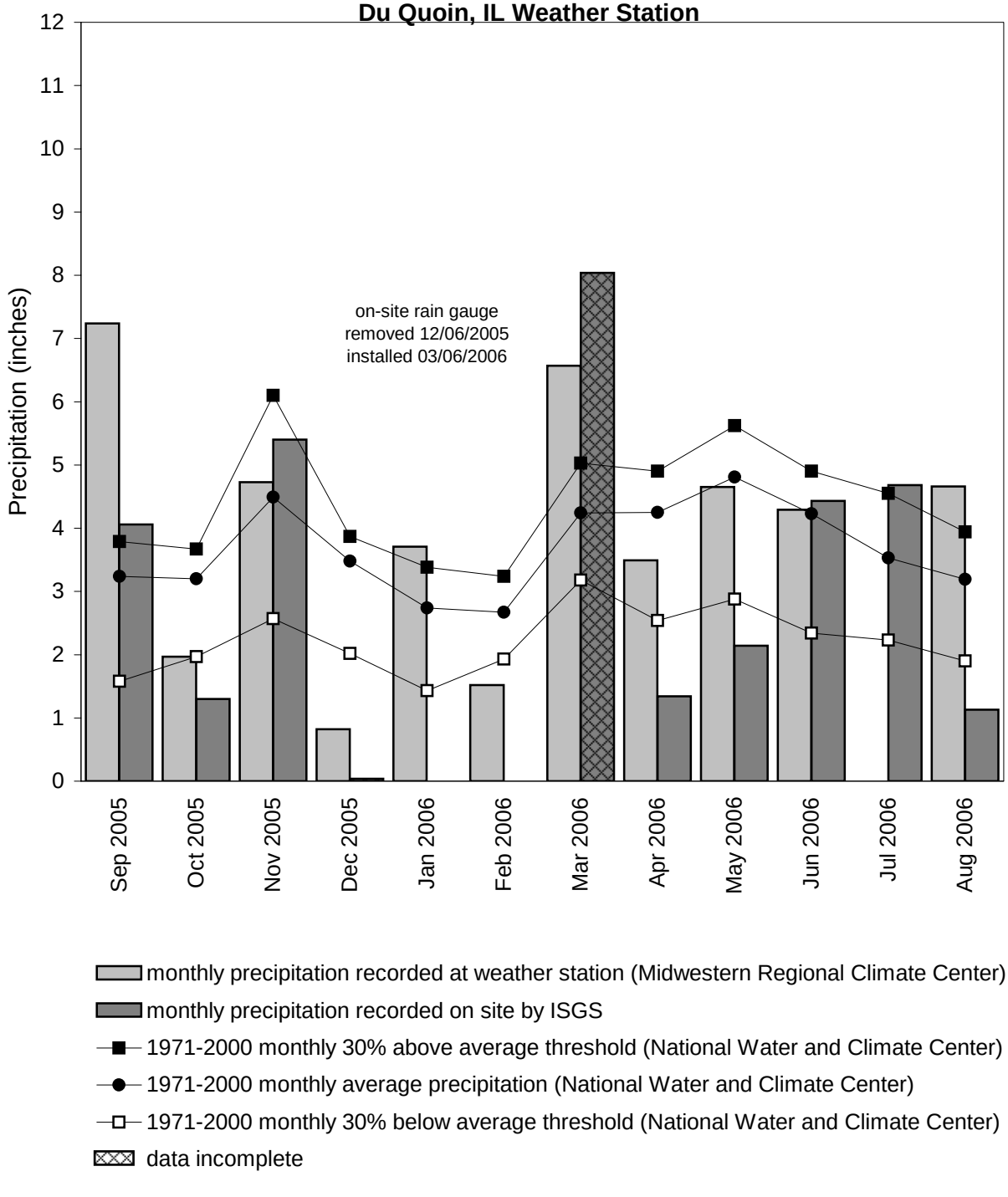
Sugar Camp Creek Wetland Compensation Site

September 1, 2005 to September 20, 2006

Water-Level Elevations
at Monitoring Instruments Located in Sugar Camp Creek



Sugar Camp Creek
Potential Wetland Compensation Site
September 2005 through August 2006
Total Monthly Precipitation Recorded On Site and at the Du Quoin, IL Weather Station



Graph last updated October 13, 2006

GREEN CREEK **ISGS #75**
POTENTIAL WETLAND COMPENSATION SITE
FAP 774
Sequence #12505
Effingham County, near Effingham, Illinois
Primary Project Manager: Bonnie J. R. Sperling
Secondary Project Manager: Eric T. Plankell

SITE HISTORY

- August 2005: ISGS submitted an Initial Site Evaluation Report to IDOT.
- September 2005: ISGS was tasked to perform a Level II hydrogeologic assessment of the site.
- December 2005: ISGS began on-site monitoring with the installation of a monitoring network and submitted an outline of preliminary hydrologic conditions to IDOT.
- March 2006: ISGS submitted a conceptual design plan to IDOT.
- September 2006: A Level II hydrogeological characterization report was submitted to IDOT (ISGS Open-File Series 2006–3).

WETLAND HYDROLOGY CALCULATION FOR 2006

The area of the site that satisfied wetland hydrology criteria (Environmental Laboratory 1987) for greater than 5% of the 2006 growing season was estimated to be 1.30 ha (3.21 ac) out of a total site area of 4.05 ha (10.0 ac). Furthermore, 1.28 ha (3.16 ac) of that area also satisfied wetland hydrology criteria for greater than 12.5% of the growing season. These estimates were based on the following factors:

- According to the Midwestern Climate Center, the median date that the growing season begins in nearby Effingham, Illinois, is April 6 and the season lasts 210 days; 5% of the growing season is 11 days and 12.5% of the growing season is 26 days.
- Total precipitation during the monitoring period was 92% of normal. December 2005 and February 2006 were the only months (when instruments were installed on the site) that were below the normal range of precipitation. This resulted in relatively stable water levels observed in the wells onsite throughout most of the year. Water levels began dropping in June in response to the higher summer evapotranspiration rates.
- In 2006, ground-water levels measured in wells 3S, 4S, 5U, 6U and 7S satisfied the wetland hydrology criteria for more than 5% of the growing season. Furthermore, wells 3S, 4S, 6U and 7U satisfied wetland hydrology criteria for greater than 12.5% of the growing season.
- Areas of inundation were observed for greater than 5% of the growing season on both sides of the main north–south ditch. Secondary indicators such as debris lines and water stains suggest that Green Creek and/or the Little Wabash River flooded the site at least once between the dates of April 6 and April 20, leading to standing water for a period of at least 25 days. This is

is supported by data from the USGS gauging station 6.8 km (4.3 mi) downstream that indicates that the Little Wabash River flooded out of its banks on April 7, 2006.

PLANNED FUTURE ACTIVITIES

- A surface-water gauge will be installed in the overflow channel of Lake Pauline and in Green Creek once construction on IL 32/33 is complete.

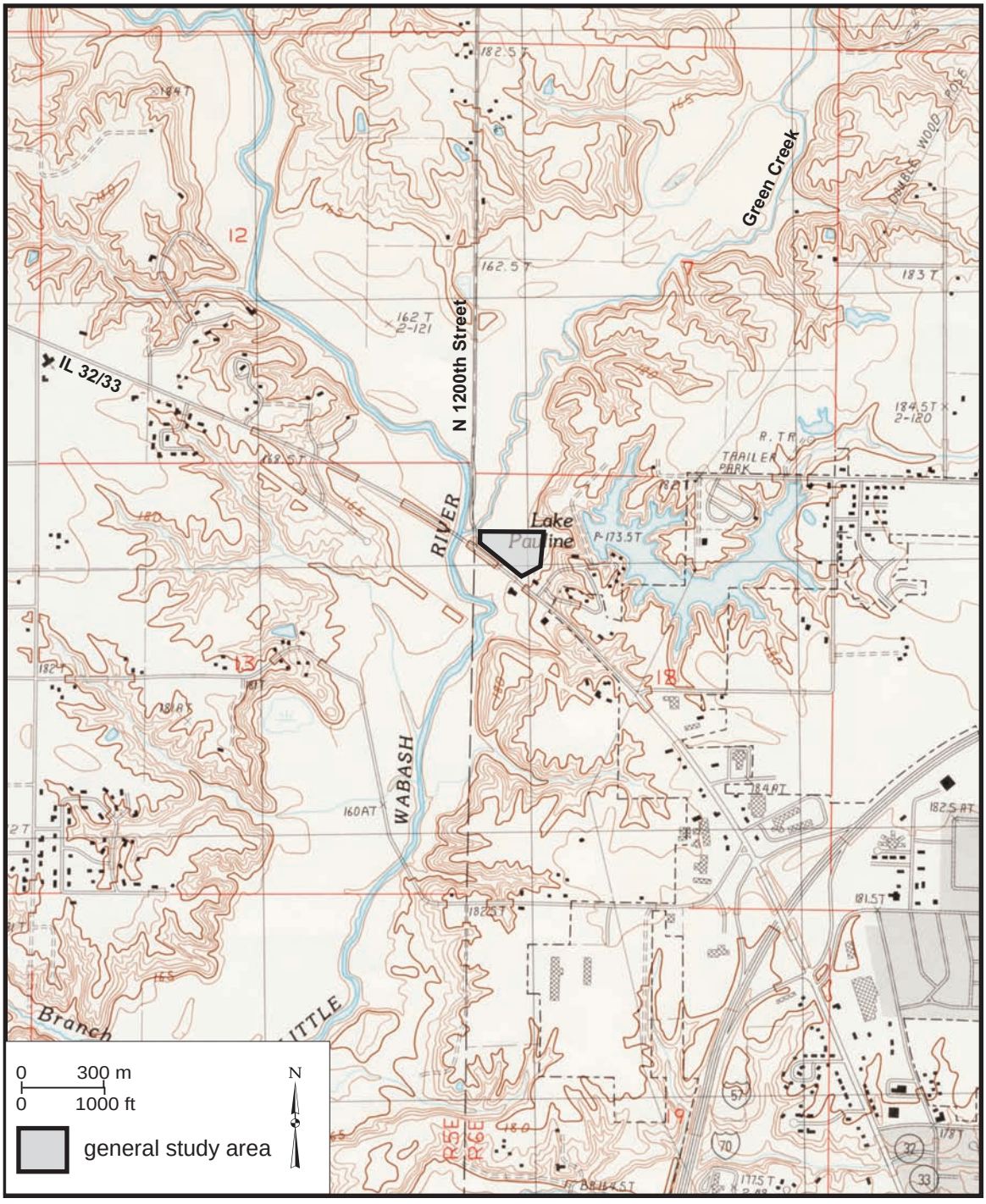
- Additional shallow wells will be installed on the western portion of the site once site construction is complete.

Green Creek Potential Wetland Compensation Site

(FAP 774, IL32/33, Seq. No. 12505)

General Study Area and Vicinity

from the USGS Topographic Series, Effingham North, IL 7.5-minute Quadrangle (USGS 1985)
contour interval is 3 m (10 ft)



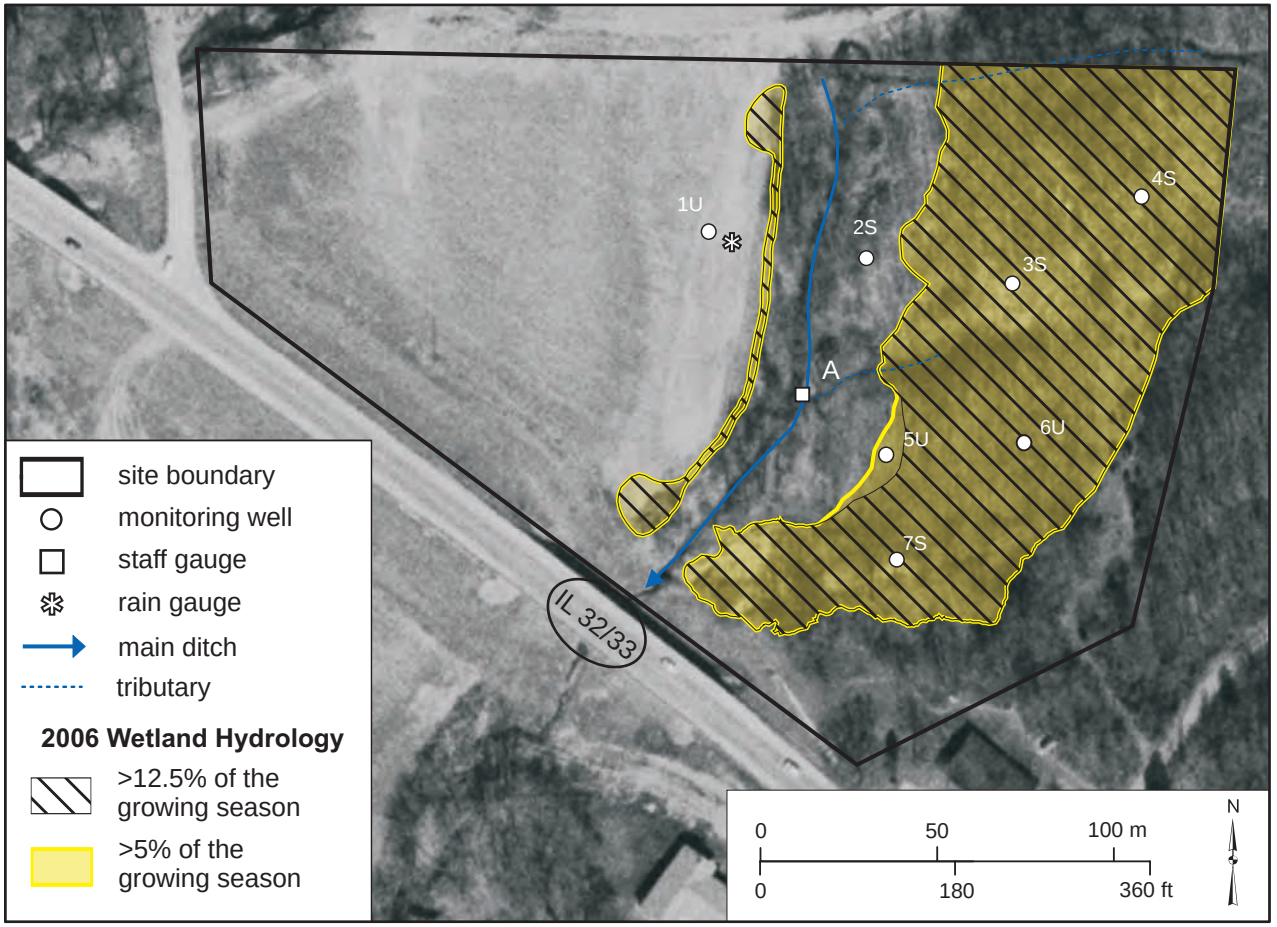
Green Creek Potential Wetland Compensation Site

(FAP 774, IL32/33, Seq. No. 12505)

Estimated Areal Extent of 2006 Wetland Hydrology

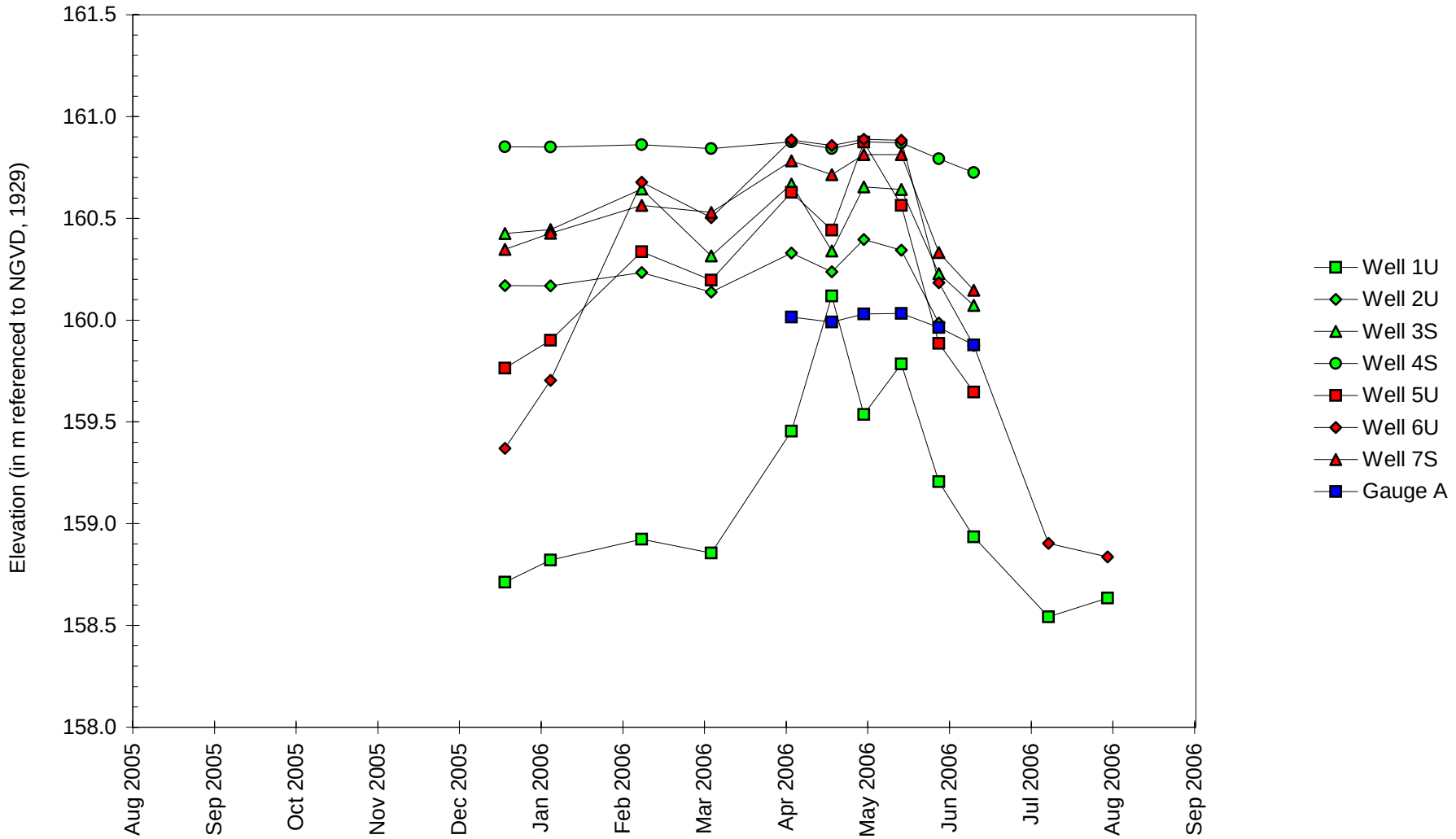
based on data collected between September 1, 2005 and September 1, 2006

Map based on USGS digital orthophotograph, Effingham North SW quarter quadrangle
produced from 2005 aerial photography (ISGS 2006)



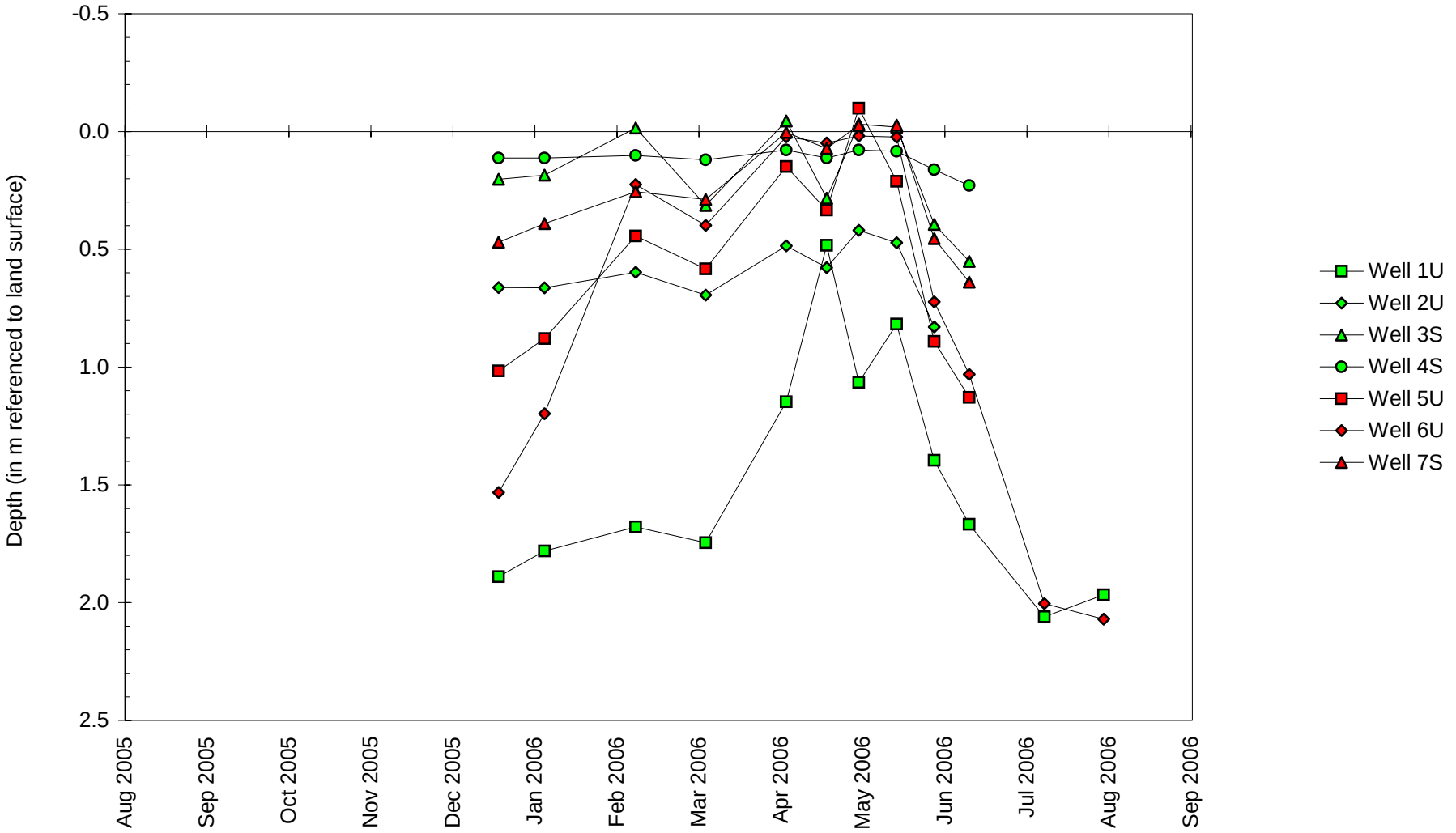
Green Creek Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Water-Level Elevations



Green Creek Potential Wetland Compensation Site
September 1, 2005 to September 1, 2006

Depth to Water



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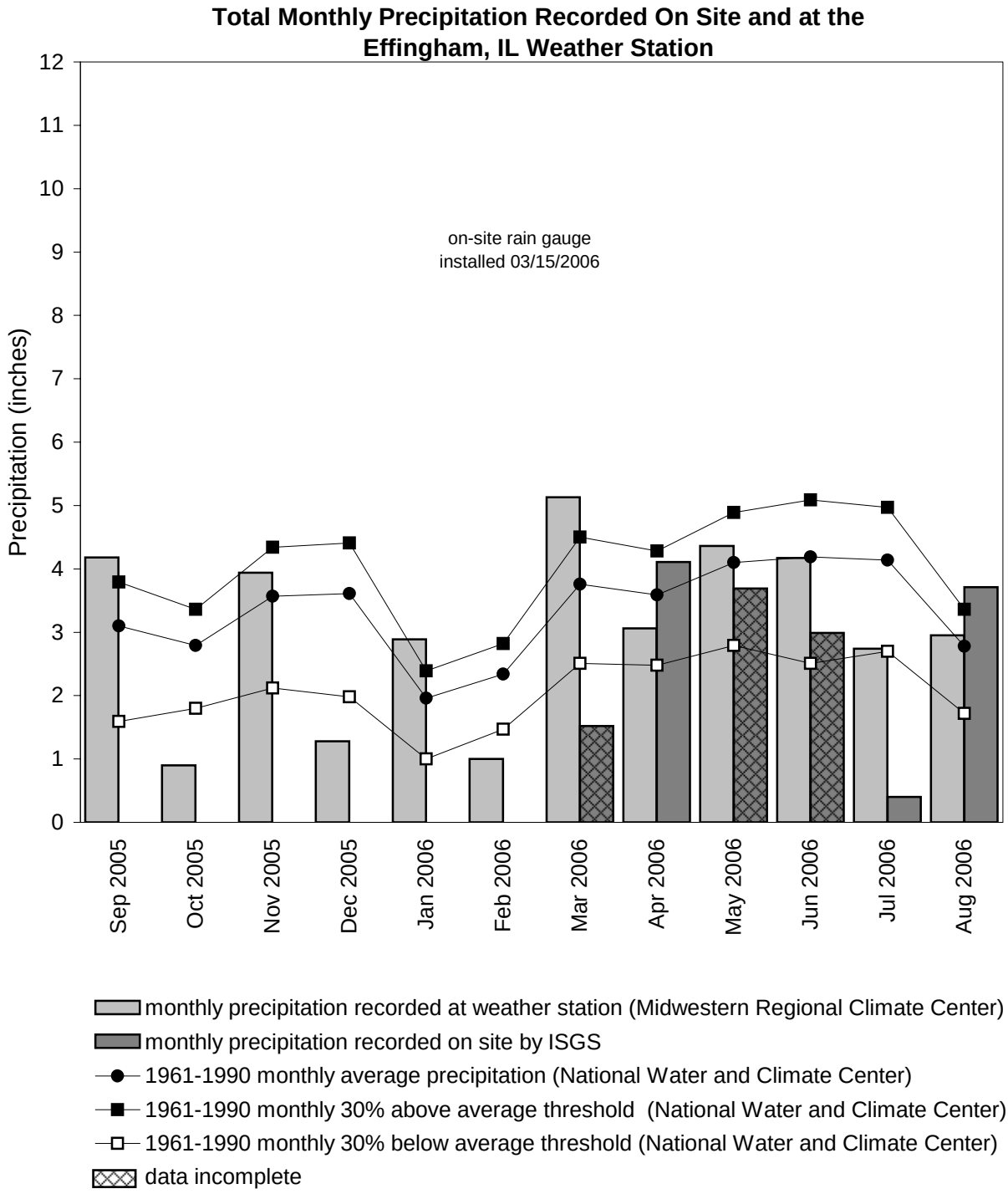
Green Creek Potential Wetland Compensation Site
September 2005 through August 2006



Graph last updated October 13, 2006